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AIR FORCE INSTITUTE OF TECHNOLOGY

Contributions to Air Force
Research and Development

Calendar Year 1979

February 1980

DEPARTMENT OF THE AIR FORCE

AIR UNIVERSITY (ATC)

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

AU-AFIT-NR-TR-1-80

AIR FORCE INSTITUTE OF TECHNOLOGY

Contributions to Air Force
Research and Development

Calendar Year 1979

February 1980

AFIT

CONTRIBUTIONS TO AIR FORCE RESEARCH AND DEVELOPMENT

CALENDAR YEAR 1979

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I. INTRODUCTION

The primary mission of the Air Force Institute of Technology (AFIT) is education, but research and consulting are essential integral elements in the process. This report highlights AFIT's contributions to Air Force research and development activities. If the readers desire any further information or wish to obtain reprints of reports they may contact the author directly by calling the department extension listed on page 5 of this report or they may contact the Dean for Research and Professional Development, AFIT/NR, in Room 2051 of Building 125 or call on extension 55835.

AFIT welcomes the opportunity to do research on topics of interest to the Air Force and other DOD organizations. Thesis or faculty research topics may be sent directly to the appropriate department or mailed to AFIT, Dean for Research and Professional Development, AFIT/NR, Wright-Patterson Air Force Base, Ohio 45433.

For commercial calls add the prefix 25-- to the extension shown on page 5. The Area Code is 513. For AUTOVON calls add the prefix 78-- to the extension number.

II. DEPARTMENT SYMBOLS AND LOCATIONS

School of Engineering (EN) Bldg 640

		<u>Room</u>	<u>Extension</u>
ENC	Dept of Mathematics		
	Dr. A. A. Lee	114	53098
ENF	Aerospace Design Center		
	Prof H. C. Larsen	104	53633
ENG	Dept of Electrical Engineering		
	Dr. R. E. Fontana	218	52024
ENP	Dept of Physics		
	Dr. L. S. Pedrotti	106	54498
ENS	Dept of Operational Sciences		
	Lt Col J. H. Havey, Jr.	204	53362
ENY	Dept of Aeronautics and Astronautics		
	Dr. P. J. Torvik	201	52362

School of Systems and Logistics (LS) Bldg 641

LSCN Dept of Nonresident Programs
Maj J. M. Deresky

324 56844

LSM Dept of Logistics Management
Lt Col A. R. Stout

327

55023

		<u>Room</u>	<u>Extension</u>
LSH	Dept of Communication and Humanities		
	Dr. R. M. Davis	324	56761
LSP	Dept of Contracting Management		
	Lt Col W. C. Pursch	213	53944
LSB	Dept of Organizational Sciences		
	Lt Col J. E. Engel	316	54549
LSY	Dept of System Acquisition Management		
	Lt Col E. D. Lewellyn	320	53355

Civil Engineering School (DE) Bldg 125

DES	Dept of Programs and Operations		
	Capt M. J. Zwick	2266	52156
DET	Dept of Technical Applications		
	Maj J. E. Goin	2267	54552
DEM	Dept of Management Applications		
	Maj D. E. Paterson	2267	54552

Civilian Institutions Programs (CI) Bldg 125

CI	Office of the Dean		
	Col D. R. Edwards	1050	53291

III. FACULTY CONSULTATIONS

289 Consulting Activities--Calendar Year 1979--Summary

SPONSORS

AFAL	35
AFFDL	30
AFLC	24
ASD	22
AFAPL	14
AFWL	14
AFML	13
AMRL	11
FTD	10
HQ USAF	9
RADC	8
DARPA	7
AFATC	7
AFMPC	6
AFHRL	6
MED CEN	5
4950 Tst Wg	5
AFOSR	4
2750th ABW	4
USN	4
AFALD	3
HQ AFSC	3
USA	3
HQ TAC	2
Los Alamos	2
HQ MAC	2
AFESC	2
Lockheed	2

DEPARTMENTS*

ENG	76
ENP	64
ENY	43
ENC	35
ENS	27
DET	14
DEM	8
LSM	6
LSY	6
ENF	6
LSS	5
LSY	2
LSP	1
LSH	1
Total	289

and one each from AFSDC, DOE, AFRPL, DNA, AFESC, JSOP, AFRRRI, AFSCAG, AFBRMC, AFTAC, AFPEA, Academy, DSMC, SAMSO, ONERA, TRW, Harvard, Xavier, Mound Lab, and 13 different Air Force bases.

*Department symbols and locations listed on page 5 and 6.

CY-1979 CONSULTING ACTIVITIES

Jan 79-1	AMST/SPO	<u>Maj R. W. Kulp.</u> Airfield Sampling for MX Advance Basing (ENC)
Jan 79-2	AFSDC Gunter AFB	<u>Maj T. E. Reeves.</u> Technical Advisor to Computer System Career Area Panel (ENC)
Jan 79-3	AFAL/WRP	<u>Dr. D. R. Barr.</u> Statistical Test of an Instantaneous Frequency Measurement Receiver (ENC)
Jan 79-4	AMRL/BBM	<u>Dr. A. H. Moore.</u> Sample Size in Non-parametric Estimation (ENC)
Jan 79-5	AFFDL	<u>Dr. D. R. Barr, Maj R. W. Kulp, Dr. A. H. Moore, and Capt B. W. Woodruff.</u> Technical Monitors for a Research Contract (ENC)
Jan 79-6	AFALD/PTPD	<u>Prof H. C. Larsen.</u> Problem of Moisture Condensing in Cruise Missile Engine (ENF)
Jan 79-7	AFAL/RWI	<u>Capt S. R. Robinson.</u> Support of Target Cueing and Classification Sensor Program (ENG)
Jan 79-8	RADC	<u>Capt S. R. Robinson.</u> Technical Evaluation of Proposed Designs for SEEK TALK Program (ENG)
Jan 79-9	AFFDL/FG	<u>Dr. P. S. Maybeck.</u> Technical Advisor on Programs in Digital Flight and Fire Control (ENG)
Jan 79-10	AFLC/DE	<u>Capt J. M. Borky.</u> Advise On Specifications for Kelly AFB Energy Monitoring and Control System (ENG)
Jan 79-11	AFAL/AAD	<u>Capt S. R. Robinson.</u> Fiber Optic Systems (ENG)
Jan 79-12	AFAL/RWT	<u>Capt J. G. Reid, Dr. P. S. Maybeck, and Capt J. E. Rader.</u> Missile Evasion Problem (ENG)
Jan 79-13	AFFDL/FGC	<u>Capt J. G. Reid.</u> Contract Review of Modal Algorithmic Control (ENG)

Jan 79-14	RADC/OCSE	<u>Capt S. R. Robinson.</u> High Altitude Large Optics (HALO) Program (ENG)
Jan 79-15	AFAL/DHO	<u>Capt S. R. Robinson.</u> Electro-Optics Research (ENG)
Jan 79-16	AFAL/WRP	<u>Capt. S. R. Robinson.</u> Design of IR and Laser Warning Receivers (ENG)
Jan 79-17	AFLC	<u>Dr. G. B. Lamont.</u> Comtec-2000-Computer Technology Forecast and Weapons Impact (ENG)
Jan 79-18	MED CEN	<u>Dr. G. John.</u> Equipment Selection for Radioactive Sample Analysis (ENP)
Jan 79-19	Xavier Univ	<u>Dr. G. R. Hagee.</u> Trace Quantities Measurements (ENP)
Jan 79-20	AFML	<u>Maj P. E. Nielsen.</u> Proposed Evaluation-Pulsed Laser Countermeasures (ENP)
Jan 79-21	AFWL	<u>Maj P. E. Nielsen.</u> Charged Particle Beams (ENP)
Jan 79-22	ASD	<u>Maj P. E. Nielsen.</u> Charged Particle Beams (ENP)
Jan 79-23	FTD	<u>Maj G. H. Nickel.</u> Technical Review (ENP)
Jan 79-24	AFAPL/SFL	<u>Dr. G. John.</u> Consultant on Methods to Detect Incipient Aircraft Engine Failures (ENP)
Jan 79-25	AFFDL/FEX	<u>Dr. M. E. Franke.</u> Mass Exchange in Cavity Flow (ENY)
Jan 79-26	ASD/ENEGP	<u>Dr. M. E. Franke.</u> F-14 Noise Suppressor Overpressurization Test (ENY)
Jan 79-27	DARPA	<u>Dr. R. A. Calico.</u> Member of Evaluation Board for Active Control of Space Structures (ENY)

Jan 79-28	AFFDL/FBR	<u>Capt H. C. Briggs.</u> Fluid Analysis Techniques for NASTRAN (ENY)
Jan 79-29	San Antonio ALC	<u>Capt H. C. Briggs.</u> T-38 and T-37 Aircraft Structural Integrity Program (ENY)
Jan 79-30	FTD	<u>Lt Col E. D. Lewellyn, Maj T. J. Valore and Mr. D. McCarty.</u> DOD System Acquisition Programs (LSY)
Jan 79-31	HQ USAF (ACHC)	<u>Mr. J. R. Hale.</u> Cost Research Report (LSP)
Jan 79-32	MED CEN	<u>Mr. J. G. Peppers.</u> Organization and Individual Development (LSM)
Jan 79-33	AFHRL/ASR	<u>Mr. C. R. Feeley.</u> Integrated Information and Data Base System (LSY)
Jan 79-34	HQ SAC	<u>Capt F. P. Lawrence, and Mr. D. E. Reynolds.</u> Budget Forecasting (LSM)
Feb 79-35	ASD/YZLR	<u>Dr. A. H. Moore.</u> Optimum Sequential Test Plans for Non-Parametric Reliability Models (ENC)
Feb 79-36	ASD/ENADC	<u>Dr. A.H. Moore.</u> Required Sample Size to Obtain Desired Confidence Levels (ENC)
Feb 79-37	AFFDL	<u>Dr. M. Kabrisky.</u> Legibility in Proposed Cockpit Display Systems(ENG)
Feb 79-38	AFOSR	<u>Dr. P. S. Maybeck.</u> Improved Filtering Process to Optimize Torqueng Sequence for Inertial System Alignment (ENG)
Feb 79-39	AFAL/RWT	<u>Capt S. R. Robinson.</u> Co ₂ Laser Tactical Sensor Study (ENG)
Feb 79-40	AFAL/AAD	<u>Capt S. R. Robinson.</u> Design of Fiber-Optic Communication Receivers (ENG)
Feb 79-41	AFESC	<u>Capt J. M. Borky.</u> Energy Monitoring and Control Systems (ENG)

Feb 79-42	AFWL/ALO	<u>Capt S. R. Robinson.</u> New Approaches for Wavefront Sensing and Optical Tracking Algorithms (ENG)
Feb 79-43	AFAL/RWI	<u>Capt S. R. Robinson.</u> Three-Dimensional Sensor and Processor Technology (ENG)
Feb 79-44	AFATC	<u>Dr. M. Kabrisky.</u> Evaluation of IR Data by Pattern Recognition System (ENG)
Feb 79-45	RADC/EEC	<u>Capt A. Golden.</u> Development of Null Filter Mobile Filter Mobile Radar Equipment (ENG)
Feb 79-46	AFAL/WR	<u>Capt A. Golden.</u> Monopulse Radar Countermeasure Techniques (ENG)
Feb 79-47	HQ USAF	<u>Dr. G. B. Lamont.</u> COMTEC 2000 Study Consultant (ENG)
Feb 79-48	AFWL	<u>Maj P. E. Nielsen.</u> Technical Review of Research Program (ENP)
Feb 79-49	DOE	<u>Maj P. E. Nielsen.</u> Computer Program for Electron Distribution Functions in Gas Discharges (ENP)
Feb 79-50	Mound Lab	<u>Dr. G. R. Hagee.</u> Plutonium Analysis by Alpha Particle and X-Ray Counting (ENP)
Feb 79-51	ASD	<u>Maj P. E. Nielsen.</u> Frequency Spectrum of Bremsstrahlung Radiation from Charged-Particle Beam (ENP)
Feb 79-52	AFMPC	<u>Lt Col E. J. Dunne.</u> Personnel Appraisal System (ENS)
Feb 79-53	AFOSR	<u>Capt J. E. Knight.</u> Evaluate Proposal on Labor Force and Labor Supply Curves (ENS)
Feb 79-54	HQ AFSC	<u>Capt M. J. Stahl.</u> Career Intentions of Company Grade S and T Officers in AFSC (ENS)
Feb 79-55	ASD	<u>Lt Col C. W. McNichols.</u> Sampling Plan for Determining Cruise Missile Engine Reliability (ENS)

Feb 79-56	AFLC	<u>Lt Col C. W. McNichols.</u> Collection of Data For Maintenance Systems (ENS)
Feb 79-57	FTD	<u>Lt Col T. R. Manley and Lt Col C. W. McNichols.</u> Analysis of Survey Data for NCO Advisory Council (ENS)
Feb 79-58	AFATC	<u>Capt H. C. Briggs.</u> Ground Vibration Test of T-38 Horizontal Stabilizer (ENY)
Feb 79-59	NRL	<u>Lt R. L. Roach.</u> Low Reynolds Number Airfoils (ENY)
Mar 79-60	AMST SPO	<u>Maj R. W. Kulp.</u> Statistical Sampling Plan for MX Air Carrier Advanced Basing Concept (ENC)
Mar 79-61	FTD/SDBS	<u>Maj R. W. Kulp.</u> Parameter Estimator Using Correlated Remote Sensor Data (ENC)
Mar 79-62	AFLC/XRS	<u>Capt B. W. Woodruff.</u> Statistical Aspects on Categories of Repairable Items (ENC)
Mar 79-63	AFFDL/WE	<u>Dr. D. R. Barr.</u> Weather Models for Icing of Cruise Missiles (ENC)
Mar 79-64	4950th Test Wg	<u>Prof H. C. Larsen.</u> Aerolastic Effects of Antenna on Vertical Fin of a C-135 (ENF)
Mar 79-65	RADC	<u>Capt S. R. Robinson.</u> Sensing Aberrations of Large Space Borne Optical Systems (ENG)
Mar 79-66	AFWL/ALO	<u>Dr. P. S. Maybeck and Capt S. R. Robinson.</u> Extended Kalman Filter for Processing FLIR Data (ENG)
Mar 79-67	RADC	<u>Lt Col R. J. Carpinella and Capt S. R. Robinson.</u> Consult on SEEK-TALK Program (ENG)
Mar 79-68	AFLC/DE	<u>Capt J. M. Borky.</u> Energy Monitoring and Control System (ENG)

Mar 79-69	AFAL/RWT	<u>Dr. P. S. Maybeck, Maj J. G. Reid, and Capt J. T. Silverthorn.</u> Contract Review-Motion Estimation Using Target Aspect (ENG/ENY)
Mar 79-70	HQ AFSC	<u>Maj J. W. Carl.</u> Time Division Multiple Access Satellite Communications Systems (ENG)
Mar 79-71	FTD	<u>Dr. C. J. Bridgman and Lt D. D. Hardin.</u> Classified Research Project (ENP)
Mar 79-72	AFFDL/FBAA	<u>Maj G. R. Doughty.</u> Improvement in Laser Irradiance Patterns (ENP)
Mar 79-73	AFAPL/POD-2	<u>Dr. W. B. Roh.</u> Technical Consultant to Advanced Concepts Group (ENP)
Mar 79-74	AFAPL/SFL	<u>Dr. G. John.</u> Radioactive Tracers for Detection of Wear in Engine Bearings (ENP)
Mar 79-75	FTD	<u>Lt Col T. R. Manley and Lt Col C. W. McNichols.</u> Analysis of Survey Data (ENS)
Mar 79-76	AFFDL	<u>Dr. M. E. Franke.</u> Proposal Evaluation on Ejector Wing Design (ENY)
Mar 79-77	DARPA	<u>Dr. R. A. Calico.</u> Proposal Review for Control of Large Space Structures (ENY)
Mar 79-78	AFATC	<u>Capt H. C. Briggs.</u> T-38 Horizontal Tail Filters (ENY)
Mar 79-79	AFRPL	<u>Dr. W. C. Elrod.</u> Liquid Rocket Propulsion (ENY)
Apr 79-80	AFHRL	<u>Maj T. D. Clark, Lt Col D. R. Edwards.</u> Policy Modeling of Air Force Logistics System (ENS)
Apr 79-81	AFFDL/FXM	<u>Dr. W. C. Elrod and Dr. H. E. Wright.</u> Laser Velocimeters (ENY)
Apr 79-82	AFFDL/FXM	<u>Dr. M. E. Franke.</u> Evaluation of Four Technical Proposals (ENY)

Apr 79-83	AFOSR	<u>Dr. M. E. Franke.</u> Circulation Controlled Airfoils (ENY)
Apr 79-84	AFLC/ LORF	<u>Dr. R. M. Davis.</u> Management System for Inventory Control of Replacement Parts (LSH)
Apr 79-85	AFFDL	<u>Maj G. R. Doughty.</u> Characterization of High Power CO ₂ Laser Beams (ENP)
Apr 79-86	AFAL	<u>Capt A. E. Hunter.</u> Design for High Voltage Pulsed Power Supplies (ENP)
Apr 79-87	Harshow Chemical	<u>Dr. T. E. Luke.</u> Laser Damage of Silicon Photodetectors (ENP)
Apr 79-88	DNA	<u>Dr. C. J. Bridgman.</u> Nuclear Fallout Research (ENP)
Apr 79-89	AFAPL	<u>Dr. W. B. Roh.</u> Review of Combustion Diagnostics Modeling Program (ENP)
Apr 79-90	AFFDL/ FES	<u>Dr. D. G. Shankland.</u> Computations of Aircraft Lighting Strike Response (ENP)
Apr 79-91	ASD	<u>Maj R. W. Kulp.</u> Air Mobile Basing Concept for Advanced MX Missile (ENC)
Apr 79-92	ASD	<u>Prof C. R. Elstrom.</u> Development of Guidance Equation for Missile Simulation (ENC)
Apr 79-93	AFAL/ RWA	<u>Dr. P. S. Maybeck.</u> Monte Carlo Software Package for Evaluating Kalman Filter Performance (ENG)
Apr 79-94	AFAL/ RW	<u>Dr. T. C. Hartrum,</u> and <u>Maj A. A. Ross.</u> COBRA JUDY Investigations (ENG)
Apr 79-95	AMRL	<u>Maj S. R. Balsamo.</u> Proposal Evaluation for Three Axis Fiber Optic Gyroscope (ENG)
Apr 79-96	AFAL	<u>Capt S. R. Robinson.</u> Fiber Optic Bus Receiver Requirement Study (ENG)
Apr 79-97	TRW	<u>Dr. P. S. Maybeck.</u> Review of Work on Improved Calibration and Alignment of Inertial System for MX (ENG)

Apr 79-98	Army MIRADCOM	<u>Maj S. R. Balsamo.</u> Design of Passive Ring Resonator Integrated Optic Gyroscope (ENG)
Apr 79-99	Harvard	<u>Capt S. R. Robinson.</u> Phase Retrieval from Intensity Measurement Problem (ENG)
Apr 79-100	RADC	<u>Maj S. R. Balsamo.</u> Rotation Sensing via Magnetic Surface Wave Effects (ENG)
Apr 79-101	AFESC	<u>Capt J. Borky.</u> Consult on Multi-Agency EMCS Guide Specifications (ENG)
Apr 79-102	AFAL/ RWI	<u>Capt S. R. Robinson.</u> Target Cueing and Classification Sensor Program (ENG)
Apr 79-103	AFLC	<u>Lt Col C. W. McNichols.</u> Sampling Scheme for Estimating Support Manhours (ENS)
May 79-104	ASD/ YZLR	<u>Dr. A. H. Moore.</u> Test Plans for Acceptance Testing (ENC)
May 79-105	2750th Test Wg	<u>Prof H. C. Larsen.</u> Structural Damage to C-135 from Buffeting from Radome Installation (ENF)
May 79-106	AMRL/BB	<u>Maj G. R. Doughty.</u> Fiber Optics in Laser Gyroscopes (ENP)
May 79-107	AFML	<u>Maj P. E. Nielsen.</u> Material Hardening Against Charged Particle Beams (ENP)
May 79-108	JSOP	<u>Dr. L. S. Pedrotti.</u> Review of Optical Research Programs at University of Arizona (ENP)
May 79-109	ASD/XRZ	<u>Dr. D. G. Shankland, and Maj G. R. Doughty.</u> High Energy Laser Beam Propagation through the Atmosphere (ENP)
May 79-110	AFML	<u>Maj G. R. Doughty.</u> Conversion of CO ₂ Laser to a CO Laser (ENP)
May 79-111	AFAL/ RWO	<u>Dr. W. B. Roh.</u> Experimental Set-Up for Atmospheric Transmission of CO ₂ Laser Beams (ENP)

May 79-112	AFAPL	<u>Capt M. R. Stamm.</u> Measurement in Gas Discharges (ENP)
May 79-113	AFAPL/	<u>Dr. G. John.</u> Review Contractors Effort on Use of Radioactive Materials in Measuring Engine Wear (ENP)
May 79-114	AFMPC	<u>Lt Col E. J. Dunne.</u> Personnel Appraisal Study (ENS)
May 79-115	Lockheed	<u>Lt R. L. Roach.</u> Implicit Numerical Techniques for Boundary Conditions (ENY)
May 79-116	NRL	<u>Lt R. L. Roach.</u> Low Reynolds Airfoil Project (ENY)
May 79-117	4950th Test Wg	<u>Maj S. J. Koob, and Capt H. C. Briggs.</u> Structural Acoustics and Airstream-Structure Interactions (ENY)
May 79-118	AFAL/RWA	<u>Dr. P. S. Maybeck.</u> Modifications of Monte Carlo Analysis Package (ENG)
May 79-119	AFRRI	<u>Maj A. A. Ross.</u> Automated Design Techniques (ENG)
May 79-120	HQ AFSC	<u>Dr. M. Kabrisky and Maj J. W. Carl.</u> Laser Radar (ENG)
Jun 79-121	HQ USAF	<u>Lt Col T. R. Manley, Lt Col C. W. McNichols and Capt M. J Stahl.</u> Research on Alcoholism Among AF Civilian Employee (ENS, LSS)
Jun 79-122	AF/MPX	<u>Capt M. J. Stahl.</u> Design of Third Air Force Quality of Life Survey (LSS)
Jun 79-123	AFSCAG Peterson AFB	<u>Capt M. Le Marr.</u> Model Service Contract (DEM)
Jun 79-124	Grissom AFB	<u>Maj J. E. Goin.</u> Tar-Rubber Pavement Overlay (DET)
Jun 79-125	911 Tac Gp	<u>Capt G. A. Nichols.</u> Cathodic Protection of Old POL Line (DET)

Jun 79-126	AFAPL	<u>Capt M. R. Stamm.</u>	Opto-Acoustic Spectroscopy Experiments (ENP)
Jun 79-127	AFWL	<u>Maj G. R. Doughty.</u>	Damage Threshold for Thin Films (ENP)
Jun 79-128	Los Alamos Sci. Lab	<u>Maj P. E. Nielsen.</u>	Laser Induced Breakdown of Particulate-Laden Air (ENP)
Jun 79-129	AFML	<u>Maj P. E. Nielsen.</u>	Charged Particle Beam Hardening Concepts (ENP)
Jun 79-130	San Antonio ALC	<u>Capt H. C. Briggs.</u>	Construction of Aerodynamic Model (ENY)
Jun 79-131	AFAPL	<u>Dr. H. E. Wright.</u>	Consultant on Laser Velocimeters (ENY)
Jun 79-132	4950th Test Wg	<u>Prof. H. C. Larsen.</u>	Ventilation System for Aircraft Structure (ENF)
Jun 79-133	AFAL	<u>Capt C. W. Roark.</u>	Mathematical Analysis of MTCAL Program (ENC)
Jun 79-134	AFBRMC	<u>Prof D. E. Reynolds.</u>	Evaluate the Change Management Process of a Major SPO (ENC)
Jun 79-135	AFTAC	<u>Capt B. W. Woodruff.</u>	Consult on Statistical Methods (ENC)
Jun 79-136	ASD/ PMDP	<u>Dr. A. H. Moore and Dr. D. R. Barr.</u>	Optimum Parametric Sequential Test (ENC)
Jul 79-137	WPAFB	<u>Capt W. H. Snowbarger.</u>	Traffic Engineering Studies (DEM)
Jul 79-138	AMRL	<u>Maj S. R. Balsamo.</u>	Contract Consultant for Fiber Optics Angular Rate Sensor (ENG)
Jul 79-139	ASD/	<u>Dr. A. H. Moore.</u>	Probability Modeling of Fatigue Crack Growth in Rivet Holes (ENC)

Jul 79-140	AFPEA	<u>Dr. J. Jones.</u> Finite Element Methods in Packaging Structure (ENC)
Jul 79-141	AFFDL/ FXM	<u>Dr. D. A. Lee.</u> Equivalent Forms of Solutions of Singular Integral Equations (ENC)
Jul 79-142	AFLC/ XR	<u>Maj T. D. Clark.</u> Policy Model for Logistics Systems (ENS)
Jul 79-143	4950th Test Wg	<u>Dr. D. G. Shankland, Dr. R. L. Hengehold, Dr. W. B. Roh, and Maj G. R. Doughty.</u> Physics-Electro Optics Efforts at the Test Wing (ENP)
Jul 79-144	AFAL	<u>Dr. T. E. Luke.</u> Peer Review Panelist (ENP)
Jul 79-145	AFML	<u>Dr. E. A. Dorko.</u> Quality Review Panel Member (ENP)
Jul 79-146	AFAPL	<u>Maj G. H. Nickel.</u> Change in Chemical Composition of Gaseous Laser Media (ENP)
Jul 79-147	AFADTC	<u>Dr. M. E. Franke.</u> Weapons Effects (ENP)
Jul 79-148	DARPA	<u>Dr. R. A. Calico.</u> Member of Source Selection Board (ENY)
Jul 79-149	AFAL	<u>Capt P. W. Whaley.</u> Global Positioning System (ENY)
Jul 79-150	HQ AFLC	<u>Lt Col E. H. Hendrix.</u> Joint Labor Management Council Programs (LSS)
Jul 79-151	MED CEN	<u>Prof J. G. Peppers.</u> Organizational Development (LSM)
Jul 79-152	Edwards AFB	<u>Dr. J. W. Demidovich.</u> Management Evaluation Improvement Team (LSY)
Jul 79-153	AF/MPX	<u>Capt M. J. Stahl, and Lt Col C. W. McNichols.</u> Design of Quality of Life Survey (LSS, ENS)
Aug 79-154	AFHRL	<u>Capt J. R. Folkson.</u> Methodology for Including Human Resources in Development of AF Systems (LSM)
Aug 79-155	Wurts- smith AFB	<u>Maj J. E. Goin.</u> Slurry --Seal for Airfield Pavements (DET)

Aug 79-156	Little Rock AFB	<u>Dr. J. M. Myers.</u> Surface Preparation and Coating at Missile Silos (DET)
Aug 79-157	AFLCM/LGC	<u>Capt M. Le Marr.</u> AFSCAG Test Program (DEM)
Aug 79-158	WPAFB	<u>Capt W. H. Snowbarger.</u> Pedestrian Safety and Control at Wright and Albrook (DEM)
Aug 79-159	MED CEN	<u>Prof J. R. Johnson.</u> Organizational Development (DEM)
Aug 79-160	AFML	<u>Dr. D. A. Lee.</u> Numerical Techniques for Inverting Matrices with Complex Elements (ENC)
Aug 79-161	HQ USAF	<u>Maj R. W. Kulp.</u> Force Structuring for Tactical Air Force (ENC)
Aug 79-162	AFAL	<u>Dr. D. A. Lee.</u> Asymptotic Behavior of Fresnel Integral with Complex Arguments (ENC)
Aug 79-163	AFFDL	<u>Maj J. G. Reid, Capt J. T. Silverthorn and Capt J. E. Rader.</u> Control Theory Applications (ENG/ENY)
Aug 79-164	DARPA	<u>Capt S. R. Robinson.</u> Algorithm Performance Evaluation for Wavefront Sensors (ENG)
Aug 79-165	6510th Test Wg Edwards AFB	<u>Dr. P. S. Maybeck.</u> Simulation of B-52 Offensive Avionics System Driven by Flight Test Data (ENG)
Aug 79-166	HQ TAC	<u>Capt J. M. Borky.</u> Digital Systems and EMCS Design for Energy Engineers (ENG)
Aug 79-167	AMRL/ HED	<u>Dr. P. S. Maybeck.</u> Realistic Crew Station Display (ENG)
AUG 79-168	AFWL/RWA	<u>Dr. P. S. Maybeck.</u> Model Specifications and Software Support (ENG)

Aug 79-169	ASD/AER	<u>Capt S. R. Robinson.</u> Multifunctions Sensor Pod for Advanced Single Seat Aircraft (ENG)
Aug 79-170	RADC/EEC	<u>Capt A. Golden.</u> Null Filter Mobile Radar Project (ENG)
Aug 79-171	AFML	<u>Dr. E. A. Dorko.</u> Team Member for In-House Quality Review (ENP)
Aug 79-172	AFML	<u>Dr. R. L. Hengehold.</u> Member of Peer Review Team (ENP)
Aug 79-173	AFMPC	<u>Lt Col C. W. McNichols.</u> Quality of Life III Survey (ENS)
Aug 79-174	AFLC/XR	<u>Maj T. D. Clark.</u> Process for Long Range Planning (ENS)
Aug 79-175	AFWL	<u>Dr. P. J. Torvik.</u> Evaluation of Hardness to High Powered Lasers (ENY)
Aug 79-176	AFML/LPJ	<u>Dr. P. J. Torvik.</u> Effectiveness of Proposed Particle Beam Countermeasure (ENY)
Aug 79-177	AFWL	<u>Dr. H. E. Wright and Dr. W. C. Elrod.</u> Time Dependent Near Field Navier Stokes Solutions (ENY)
Aug 79-178	AFFDL/FXM	<u>Dr. H. W. Wright, Capt H. C. Briggs, and Dr. W. C. Elrod.</u> Measurement of Flow Fields Around Oscillating Airfoils (ENY)
Aug 79-179	San Antonio ALC	<u>Capt H. C. Briggs.</u> Application of FLEXLODS Program to Airload Determination for T-37 (ENY)
Sep 79-180	AFHRL	<u>Maj J. R. Folkesson.</u> Large Scale System Design Decision Making (LSM)
Sep 79-181	ASD/SD25	<u>Prof W. A. Dean.</u> EF-111A Configuration and Data Management (LSY)
Sep 79-182	AFAL	<u>Capt C. W. Roark.</u> Data Reduction Problem for Optical Space-Object Tracking System (ENC)

Sep 79-183	AFLC/XR	<u>Maj T. D. Clark.</u> Long Range Planning and Strategic Management (ENS)
Sep 79-184	AFMPC/MPCZ	<u>Lt Col E. J. Dunne.</u> Strategies for New Personnel Appraisal Concepts (ENS)
Sep 79-185	4950th Test Wg	<u>Prof H. C. Larsen.</u> Influence of Static Margin on Trim Drag of Airplanes (ENF)
Sep 79-186	RADC	<u>Capt S. R. Robinson.</u> Signal Processing Methods (ENG)
Sep 79-187	USA White Sands	<u>Maj J. G. Reid.</u> Consultant on Army Patriot Missile System (ENG)
Sep 79-188	AFAL	<u>Capt J. M. Borky, and Maj A. A. Ross.</u> Microprocessor Design Project (ENG)
Sep 79-189	AFATC	<u>Maj J. G. Reid.</u> Optimal Guidance Law (ENG)
Sep 79-190	AFFDL	<u>Capt H. C. Briggs.</u> Medium Sized FORTRAN Structural Analysis Programs (ENY)
Sep 79-191	2046th Comm Grp	<u>Capt P. W. Whaley.</u> Calibration of a Wind Velocity Sensor (ENY)
Sep 79-192	475 Test Sqd Tyndall AFB	<u>Capt J. T. Silverthorn.</u> Software Error in the Director Fire Control System (ENY)
Sep 79-193	AFATC/DLJC	<u>Capt J. T. Silverthorn.</u> Certification of Store Compatibility for F-16 (ENY)
Sep 79-194	DARPA	<u>Dr. R. A. Calico.</u> Active Control of Large Space Structures (ENY)
Sep 79-195	ASD/ENBA	<u>Dr. T. E. Luke.</u> Retro-Fit of Optical Equipment (ENP)
Sep 79-196	AFML	<u>Dr. R. L. Hengehold.</u> Infrared Detectors (ENP)
Sep 79-197	AFWL	<u>Maj J. H. Erkkila.</u> Laser Irradiance Variation on Mirrors for Pulsed CO ₂ Electric Laser (ENP)

Sep 79-198	HQ TAC	<u>Dr. T. E. Luke, and Maj G. R. Doughty.</u> Lasers and Electro-Optics (ENP)
Sep 79-199	AFWL	<u>Maj W. F. Bailey.</u> New Metastable Sources for Transfer Laser Applications (ENP)
Sep 79-200	AFAPL	<u>Dr. E. A. Dorko.</u> Proposal Evaluation - Kinetics of Alternate Fuels (ENP)
Sep 79-201	AFML/LPJ	<u>Dr. C. J. Bridgman, and Maj G. H. Nickel.</u> High Altitude Nuclear Effects (ENP)
Sep 79-202	AFESC	<u>Dr. J. R. Myers.</u> Corrosion/Cathodic Protection (DET)
Sep 79-203	AF/RDCL	<u>Capt M. Le Marr.</u> AFSCAG Service Contract Inspection (DEM)
Sep 79-204	Peterson AFB	<u>Capt R. C. Vogel.</u> Equipment Room Corrosion Problem (DET)
Sep 79-205	HQ USAF	<u>Maj D. E. Paterson, and Capt P. J. McNickle.</u> Structural Damage Predicted from Overwave Pressures (DEM)
Sep 79-206	AFHRL ASD	<u>Maj J. R. Folkson.</u> Large Scale System Design Decision Making (LSM)
Sep 79-207	AF Academy	<u>Capt M. J. Stahl.</u> Attrition and Selection Problems (LSS)
Sep 79-208	ASD	<u>Prof W. A. Dean.</u> Consult on EF-MA System Program Office Configuration Management (LSY)
Sep 79-209	AFALD	<u>Prof C. C. Jackson.</u> DPML Conference Techniques (LSY)
Sep 79-210	AFALD	<u>Dr. J. W. Demidovich.</u> DPML Conference Techniques (LSY)
Sep 79-211	2750th/ACF	<u>Capt L.W. Emmelhainz.</u> Travel Vouchers (LSY)

Oct 79-212	AFLC/JAB	<u>Lt Col P. V. Compton, Maj J. E. Goin, and Capt W. G. Schauz. Expert Legal Consultant 1.1 million Contractor Claim (DET)</u>
Oct 79-213	AFLC/JAB	<u>Capt H. L. Jacobs. Contract Claim Richenbacher AFB (DET)</u>
Oct 79-214	Keflavik NAS Iceland	<u>Capt P. J. McNickle and Capt H. L. Jacobs. Large Generator Availability (DET)</u>
Oct 79-215	McGuire AFB	<u>Capt G. A. Nichols, and Capt P. R. Dolter. Coating for Concrete Exposed to Chlorine and Florine Gas (DET)</u>
Oct 79-216	HQ MAC/DE	<u>Capt G. A. Nichols, and Capt M. D. Stump. Coating for Electrified Fence (DET)</u>
Oct 79-217	AFFDL/FXG	<u>Capt J. E. Rader. Numerical Optimization Techniques Using Realistic Flight Performance (ENY)</u>
Oct 79-218	Los Alamos	<u>Maj W. F. Bailey. Electron Kinetics Calculation in CO₂ Lasers (ENY)</u>
Oct 79-219	ONERA France	<u>Maj W. F. Bailey. Efficient Production of Ozone for Water Purification (ENY)</u>
Oct 79-220	AFAL/WRD	<u>Dr. E. A. Dorko. Proposal Evaluation in Areas of Dye Laser (ENP)</u>
Oct 79-221	AFOSR	<u>Lt Col T. D. Clark. Developing Organizational Policy Models (ENS)</u>
Oct 79-222	Naval Materiel (USN)	<u>Lt Col T. D. Clark. Air Force Logistics System Model (ENS)</u>
Oct 79-223	AFHRL	<u>Lt Col T. D. Clark. Plans for Air Force Logistics (ENS)</u>
Oct 79-224	AFLC/XR	<u>Lt Col T. D. Clark. 1985 Structure for Logistics Management System (ENS)</u>

Oct 79-225	FTD	<u>Lt Col T. D. Clark.</u> Policy Development in FTD (ENS)
Oct 79-226	AFMPC	<u>Lt Col E. J. Dunne.</u> Special Study Group on Personnel Appraisal (ENS)
Oct 79-227	HQ USAF	<u>Lt Col C. W. McNichols.</u> AF Quality of Life Survey (ENS)
Oct 79-228	AFML	<u>Maj R. W. Kulp.</u> Statistical Effort in Contract Statement of Work (ENC)
Oct 79-229	AMRL	<u>Dr. J. Jones.</u> Finite-Element Methods and Optimization Theory (ENC)
Oct 79-230	AFAL/WRD	<u>Capt B. W. Woodruff.</u> Probability Distribution of Electromagnetic Beams and Targets (ENC)
Oct 79-231	AFAL	<u>Maj A. A. Ross, and Dr. T. C. Hartrum.</u> Review of Final Report for COBRA JUDY Program (ENG)
Oct 79-232	AFWL	<u>Dr. P. S. Maybeck.</u> Adaptive and Multirate System Design (ENG)
Oct 79-233	AFFDL	<u>Dr. G. B. Lamont.</u> Team Member for Review and Technical Evaluation In-House Programs (ENG)
Oct 79-234	AFAL	<u>Capt A. Golden.</u> Chairman of Peer Review Committee for In-House Research (ENG)
Oct 79-235	USA Signal Ctr	<u>Maj A. A. Ross.</u> ADP and Computer Systems (ENG)
Oct 79-236	DARPA	<u>Capt S. R. Robinson.</u> Object Reconstruction Techniques Based on Fourier Transform Modulus Measurements (ENG)
Oct 79-237	AFFDL	<u>Dr. C. H. Houpis.</u> Moveable Gun Problem (ENG)
Oct 79-238	AMRL/HE	<u>Dr. P. S. Maybeck.</u> Kalman Filter Simulation for B-52 (ENG)

Oct 79-239	DSMC	<u>Maj A. A. Ross.</u> Software Acquisition Management (ENG)
Nov 79-240	ASD/DPCH	<u>Lt Col E. J. Dunne.</u> Human Resources Project (ENS)
Nov 79-241	AFFDL	<u>Prof H. C. Larsen.</u> Modification of Eagle RPV Propulsion System for Vectored Thrust (ENF)
Nov 79-242	AFFDL/FG	<u>Dr. P. S. Maybeck.</u> Peer Review of In-House Work Unit (ENG)
Nov 79-243	AFLC	<u>Capt J. M. Borky.</u> Review Proposals for Solid State RF Amplifiers for TACEWS Modification Program (ENG)
Nov 79-244	AFFDL	<u>Dr. P. S. Maybeck, and Maj A. A. Ross.</u> Review of Multimicroprocessor Flight Contact System In-House Work Unit (ENG)
Nov 79-245	AFAL	<u>Dr. G. B. Lamont.</u> Chairman of In-House Peer Group Review Committee (ENG)
Nov 79-246	AFAL/TWA	<u>Dr. P. S. Maybeck.</u> Filter Design in GPS Receiver for Antijamming (ENG)
Nov 79-247	AMRL	<u>Capt L. R. Kizer.</u> Speech Recognition (ENG)
Nov 79-248	ASD/YWF	<u>Maj J. W. Carl.</u> Evaluation of Flight Simulator Communications Concepts (ENG)
Nov 79-249	AFFDL/GESL	<u>Capt P. L. Rustan.</u> Aircraft Lighting Protection(ENG)
Nov 79-250	San Antonio ALC	<u>Capt H. C. Briggs.</u> Validation of Half Aircraft Structural Finite Element Model (ENY)
Nov 79-251	FTD/TQTD	<u>Dr. W. C. Elrod.</u> High Energy Lasers (ENY)
Nov 79-252	Lockheed-GA	<u>Lt R. L. Roach.</u> ADI Modification Schemes for Computational Fluids (ENY)

Nov 79-253	FTD	<u>Maj G. H. Nickel.</u> Neutrino Physics (ENP)
Nov 79-254	AFAPL	<u>Maj W. F. Bailey, and Maj G. H. Nickel.</u> Member of In-House Quality Review Committee (ENP)
Nov 79-255	AFAPL	<u>Maj M. R. Stamm.</u> Optical and Mass Spectroscopic Diagnostic Techniques (ENP)
Nov 79-256	AFWL	<u>Maj W. F. Bailey.</u> Advanced Concepts in Weapons (ENP)
Nov 79-257	AFAL	<u>Dr. T. E. Luke.</u> Peer Review Committee Member (ENP)
Nov 79-258	DARPA	<u>Maj J. H. Erkkila, and Maj G. R. Doughty.</u> Visible Laser Program (ENP)
Nov 79-259	AMRL	<u>Maj G. R. Doughty.</u> Coherent Feedback Loop (ENP)
Nov 79-260	AFAL	<u>Maj G. R. Doughty.</u> Alignment for a Frequency Doubled YAG Laser (ENP)
Nov 79-261	ASD/ENADD	<u>Dr. A. H. Moore.</u> Monte Carlo Methods to Find Confidence Intervals for Kill Probabilities (ENC)
Nov 79-262	AMRL	<u>Dr. A. H. Moore.</u> Robust Models and Estimation Procedures (ENC)
Nov 79-263	HQ MAC	<u>Dr. D. R. Barr.</u> Missing Data In Observations (ENC)
Nov 79-264	AFFDL	<u>Dr. D. A. Lee.</u> Solving Periodic Block-Tridiagonal Coefficient Matrices (ENC)
Nov 79-265	McChord AFB	<u>Capt G. A. Nichols.</u> COCESS Paint and Coatings (DET)
Nov 79-266	ASD/RA	<u>Prof J. R. Johnson.</u> Establishment of MBO Program (DEM)

Dec 79-267	MED CTR	<u>Capt M. D. Stump.</u> Illumination of Newborn Nursery (DET)
Dec 79-268	AFLC/JAB	<u>Capt H. L. Jacobs.</u> Expert Witness on Contractor Claim (DET)
Dec 79-269	AFAL	<u>Dr. P. S. Maybeck.</u> Review of Advanced GPS/Inertial Integration Technology (ENG)
Dec 79-270	AFFDL/FES	<u>Capt P. L. Rustan.</u> Aircraft Lightning Characterization (ENG)
Dec 79-271	FTD	<u>Capt P. L. Rustan.</u> Multiple Channel Data Reduction (ENG)
Dec 79-272	AFATL/DLMA	<u>Maj J. G. Reid.</u> Proposal Review (ENG)
Dec 79-273	AFFDL	<u>Maj J. G. Reid.</u> Technical Planning (ENG)
Dec 79-274	Robins AFB	<u>Capt R. Black.</u> Computer Software Support (ENC)
Dec 79-275	AFFDL/FGC	<u>Prof C. R. Edstrom.</u> Differential Geometry Problem in Fluid Mechanics (ENC)
Dec 79-276	AMRL	<u>Dr. A. H. Moore.</u> Deriving Distributions for Modeling Human Performance (ENC)
Dec 79-277	AFWL	<u>Maj J. H. Erkkila.</u> Resonator Design Problems (ENP)
Dec 79-278	AFAL/WRD	<u>Dr. E. A. Dorko.</u> Chemical Aspects of Decomposition of Coolant Material (ENP)
Dec 79-279	AFWL	<u>Maj J. H. Erkkila.</u> Mode Control Problems on Airborne Laser Laboratory (ENP)
Dec 79-280	AFML	<u>Maj W. F. Bailey.</u> Damage Mechanisms in Brittle Materials and Optics Hardening (ENP)

Dec 79-281	AFAPL	<u>Maj M. R. Stamm.</u> Member of In-House Quality Review Committee (ENP)
Dec 79-282	AFAPL	<u>Maj G. H. Nickel.</u> Creation of He ⁺ ions in Closed Cycle Electrical Laser Gas Mixture (ENP)
Dec 79-283	AFAL	<u>Maj G. R. Doughty.</u> Aligning Series of Laser Oscillators, Amplifiers and Optics (ENP)
Dec 79-284	AFMPC	<u>Lt Col E. J. Dunne.</u> Planning an OER Test Program (ENS)
Dec 79-285	AFLC/XRS	<u>Lt Col J. R. Hobbs.</u> Forecasting of Engine Removals (ENS)
Dec 79-286	HQ AFLC	<u>Capt H. C. Briggs.</u> Aircraft Battle Damage Repair Analysis (ENY)
Dec 79-287	AFFDL/FX	<u>Dr. H. E. Wright.</u> Set Up of Photon Circulation Laser Velocimeter (ENY)
Dec 79-288	SAMSO	<u>Capt W. Wiesel.</u> Distribution of Fragments from Exploded Satellite (ENY)
Dec 79-289	AFFDL/FXM	<u>Dr. M. E. Franke.</u> Research on Fluid Ejectors (ENY)

IV. FACULTY RESEARCH PROJECTS

228 Research Projects--Calendar Year 1979--Summary

DEPARTMENTS*

ENY	55
ENG	49
ENP	42
ENC	30
ENS	21
LSS	10
DEM	6
LSM	5
DET	3
LSY	3
LSP	2
ENF	1
LSH	1
EN	1
Total	229

*Department symbols and locations listed on pages 5 and 6

CY-1979 RESEARCH PROJECTS

LSP 79-1 Unified Linear Progress Curve Formulation. Prof J. R. Hale

ENS 79-2 Policy Management in Air Force Logistics. Lt Col T. D. Clark

ENS 79-3 Goal Programming Analysis of Personnel System Response in War Contingencies. Capt J. M. Knight

ENS 79-4 A. F. Quality of Life Survey. Lt Col T. R. Manley, Lt Col C. W. McNichols, Capt M. J. Stahl

ENC 79-5 Solutions of the Lyapunov Matrix Equation. Dr. J. Jones

ENC 79-6 Adaptive Robust Estimation of Parameters of Symmetric Population. Dr. A. H. Moore

ENC 79-7 System Identification as a Regularizable Ill-Posed Problem. Dr. D. A. Lee

ENC 79-8 Bayesian Estimation of Parameters from Type II Censored Samples. Dr. A. H. Moore

ENG 79-9 Performance Analysis of a Particularly Simple Kalman Filter. Dr. P. S. Maybeck

ENG 79-10 Estimation of Aircraft Target Motion Using Pattern Recognition Orientation Measurement. Dr. P. S. Maybeck, Capt J. G. Reed

ENG 79-11 Enhanced Fire Control System Filtering via Refined Air-to-Air Missile Acceleration Modeling. Dr. P. S. Maybeck

ENG 79-12 Energy Monitoring and Control Systems. Capt J. M. Borky

ENG 79-13 Design of IR and Laser Warning Receivers. Capt S. R. Robinson

ENP 79-14 Physics of Krypton Fluoride Laser. Capt A. M. Hunter

- ENP 79-15 Long Lifetime Closed Cycle Rare Gas Laser. Capt M. R. Stamm
- ENP 79-16 Countermeasures Against Pulsed Laser Effects on Target Materials. Maj P. E. Nielsen
- ENP 79-17 Singularities in Diffusion Theory Eigenvalue Problems. Lt D. D. Hardin
- ENP 79-18 Improved Capabilities to Detect Incipient Failures of Aircraft Engines. Dr. G. John
- ENP 79-19 Metal-Nitride-Oxide Semiconductor Detector for an Ionizing Radiation Dosimeter. Dr. G. John, Dr. G. R. Hage
- ENS 79-20 Stress Management Clinic. Maj G. C. S. Young, Dr. L. E. Wolaver
- ENY 79-21 New Method for Finite Element Analysis of Potential Flow Problems. Capt J. E. Marsh
- ENY 79-22 Finite Element Methods for Steady Subsonic and Transonic Flows Over Thin Airfoils. Capt J. E. Marsh
- ENY 79-23 Orbital and Solar Resonance in the Jovian Moon System. Capt W. E. Wiesel
- ENY 79-24 Investigation of St Venants' Principle as Related to Laminated Composite Plates. Dr. A. N. Palazotto
- ENY 79-25 Truncated Fourier Series in Finite Difference Approximations of Structural Stability Equations. Dr. A. N. Palazotto
- ENC 79-26 Block Diagonalization of Ill-Conditioned Matrices. Dr. J. Jones
- ENG 79-27 Field Properties of Multiple Coherently Combined Lasers. Capt S. R. Robinson
- ENG 79-28 Integrated Signal Conditioning for Diaphragm Pressure Sensors. Capt J. M. Borky

ENG 79-29 Development of Computers with more Human Like Input-Output Systems. Dr. M. Kabrisky

ENG 79-30 Evaluation of IR Data to Automatically Detect and Engage Enemy Targets. Dr. M. Kabrisky

ENG 79-31 Basic Assembly Language Programming for the 6502. Capt F. D. Kirshner

ENG 79-32 Application of Clustering Techniques in Computer Performance Evaluation. Dr. T. C. Hartrum

ENG 79-33 New General Purpose Computer Language. Dr. G. B. Lamont

ENP 79-34 Photon Statistics in Two-Mode Laser. Dr. D. G. Shankland

ENP 79-35 High-Intensity Laser-Matter Coupling in a Vacuum. Maj P. E. Nielsen

ENP 79-36 Computation of Electromagnetic Resonances of Aircraft Structures. Dr. D. G. Shankland

LSS 79-37 Model Career Intentions of Company Grade S and T Officers in AFSC. Capt M. J. Stahl

ENS 79-38 Alcoholism Among USAF Civilian Employees. Lt Col T. R. Manley, Lt Col C. W. McNichols, Capt M. J. Stahl

ENS 79-39 An Expectancy Theory Prediction of the Retention of Air Force Scientists and Engineers. Lt Col T. R. Manley, Lt Col C. W. McNichols, Capt M. J. Stahl

LSS

ENP 79-40 Kinetics of Kiton Red S Photodecomposition Under CW and Flash Conditions. Dr. E. A. Dorko

ENY 79-41 Buckling Analysis of Laminated Cylindrical Shells. Dr. A. N. Palazotto

ENY 79-42 Approximate Analysis of Edge Effects in Composite Laminated Plates. Dr. A. N. Palazotto

- ENY 79-43 Computer Aided Design of Vibration Isolation Systems.
Capt P. W. Whaley
- LSM 79-44 The Human Factor. What It Means to Logisticians. Lt Col R. E.
Knipfer, Lt Col R. V. Badalamente
- LSM 79-45 A Look at the Maintenance Data Collection System. Lt Col R. V.
ENS Badalamente, Lt Col T. D. Clark
- ENG 79-46 Programmable Signal Process for Speech and Video. Dr. M. Kabrisky
- ENC 79-47 Adaptive Estimation Based on a Family of Generalized Exponential
Power Distribution. Dr. A. H. Moore
- ENC 79-48 Adaptive Robust Estimation of Location and Scale Parameters of
Symmetric Population. Dr. A. H. Moore
- ENC 79-49 Fixed and Sequential Test Plans for Reliability of a System
Whose Failure Distribution is a Two Parameter Weibull.
Dr. A. H. Moore
- ENC 79-50 Block Diagonalization of Continuous Matrices and Reducibility of
Linear Time Varying Systems. Dr. J. Jones
- ENC 79-51 Radial Structure of Cylindrical Discharges in Electronegative
Gases. Dr. D. A. Lee
- ENC 79-52 Application of Time Series Analysis in Computer Performance
Evaluation. Maj R. W. Kulp
- ENC 79-53 Estimation of Reliability from Multiple Independent Grouped
Censored Samples with Failure Time Known. Dr. A. H. Moore
- ENC 79-54 An Evaluation of Exponential and Weibull Test Plans.
Dr. A. H. Moore
- ENC 79-55 Solution of the Lyapunov Matrix Equation. Dr. J. Jones
- ENC 79-56 Examples of Regularizable Ill-Posed Problems. Dr. D. A. Lee
- ENF 79-57 Aero-Elastic Effects and Possible Flutter of an Antenna on
Vertical Fin of a C-135. Prof H. C. Larsen
- ENG 79-58 Reliability of Solar Energy Systems. Dr. T. L. Regulinski

- ENG 79-59 Spatial Filtering Design Considerations for a Line Scanning Sensor. Capt S. R. Robinson
- ENG 79-60 Speckle Noise Model for Optical Heterodyne Line-Scan Imagery. Capt S. R. Robinson
- ENG 79-61 A Target Tracker Using FLIR Data. Dr. P. S. Maybeck.
- ENG 79-62 Motion Estimation Using Target Aspect. Dr. P. S. Maybeck.
- ENP 79-63 Optical Analysis of Carrier and Dopant Concentrations in GaAs. Dr. D. G. Shankland
- ENP 79-64 High Intensity Laser-Matter Coupling in a Vacuum. Maj P. E. Nielsen
- ENP 79-65 Application of Finite-Element Techniques to Aircraft Lighting Strike Response Calculations. Dr. D. G. Shankland
- ENP 79-66 Electron Drift Velocities in Mixture of Rare and Molecular Gases. Maj M. R. Stamm
- ENP 79-67 Improvement in Laser Irradiance Patterns Using a Passive Damping Technique. Maj G. R. Doughty
- ENP 79-68 Initial Shock Tube Studies of Monomethylamine. Dr. E. A. Dorko
- ENS 79-69 1978 FTD Enlisted Advisory Council Job Attitude Survey. Lt Col T. R. Manley
- LSS 79-70 Behavioral Decision Theory, Need for Achievement and Academic Performance. Capt M. J. Stahl
- ENY 79-71 Effects of Prebuckling on Stiffened Cylindrical Panels. Dr. A. N. Palazotto
- ENY 79-72 Analysis of Ring Stiffened Cylindrical Shell Acting Under a Concentrated Load. Dr. A. N. Palazotto
- ENY 79-73 Series Expansions for Finite Difference Approximations to Boundary Value Problems. Dr. A. N. Palazotto
- ENY 79-74 Fragmentation of Objects in Orbit. Capt W. E. Wiesel

ENY 79-75 T-38 Horizontal Tail Flutter. Capt H. C. Briggs
 ENS 79-76 Major Decisional and Information Structures in Logistics.
 Lt Col T. D. Clark
 ENS 79-77 Policy Management in Air Force Logistics. Lt Col T. D. Clark
 ENY 79-78 Parametric Steady of Buckling of Axially Compressed Stringer
 Stiffened Cylindrical Shells with Cutouts. Dr. A. N. Palazotto
 ENY 79-79 Elastic-Plastic Analysis Related to Plates and Shells.
 Dr. A. N. Palazotto
 ENY 79-80 Analytical and Experimental Determination of Stiffness
 Properties for Hybrid Composites. Dr. A. N. Palazotto
 ENY 79-81 Cutout Reinforcement of Stiffened Cylindrical Shells.
 Dr. A. N. Palazotto
 ENY 79-82 Subsonic Base Pressure Fluctuations. Capt R. A. Merz
 ENY 79-83 Laser Velocimeters. Dr. H. E. Wright, Dr. W. C. Elrod
 LSH 79-84 Using Surveys to Improve Courses in Technical Writing. Dr. R. M.
 Davis
 ENP 79-85 Engineering Design at the Graduate Level. Dr. C. J. Bridgman
 ENP 79-86 Laser Radiometry and Beam Diagnostic. Dr. L. S. Pedrotti
 ENP 79-87 Singularities in Diffusion Theory Eigenvalue Problems.
 Lt D. D. Hardin
 ENP 79-88 Degradation of KRS Under Flashed and CW Irridiation. Dr. E. A.
 Dorko
 ENP 79-89 Computations of Aircraft Lighting Strike Response. Dr. D. G.
 Shankland

- ENC 79-90 Keyboard Fix for the TRS-80. Capt C. W. Roark
- ENC 79-91 Percom Mini-Disks for the TRS-80. Capt C. W. Roark
- ENC 79-92 Development of Guidance Equations for Guided Missile
Digital Simulations. Prof C. R. Edstrom
- ENC 79-93 Solutions of Ordinary Differential Equations by Finite
Element Methods. Dr. J. Jones
- ENG 79-94 Laser Gyroscope. Maj S. R. Balsamo
- ENG 79-95 Relational Data Bases - Normal Forms. Dr. T. C. Hartrum
- ENG 79-96 Microprocessor Education. Dr. G. B. Lamont
- ENG 79-97 Adaptive Processing in Optical Communication and Imaging.
Capt S. R. Robinson
- ENG 79-98 Rotation Sensing via Magnetic Surface Wave Effects.
Maj S. R. Balsamo
- ENS 79-99 Sampling Scheme for Estimating Support General Manhours.
Lt Col C. W. McNichols
- ENC 79-100 k-Sample Maximum Likelihood Ratio Test for Change of Weibull
Shape Parameter. Dr. A. H. Moore
- ENC 79-101 Fixed and Sequential Test Plans for Reliability of a System
Whose Failure Distribution is a Two Parameter Weibull.
Dr. A. H. Moore
- ENP 79-102 Numerically Efficient Procedure for the Theil-van de Panne
Quadratic Programming Method. Dr. D. G. Shankland
- ENP 79-103 CARS Measurement in a Bluff-Body Stabilized Diffusion Flame.
Dr. W. B. Roh

- ENS 79-104 Cosmopolitan-Local Orientations as Predictors of Scientific
LSS Productivity, Organizational Productivity, and Job
 Satisfaction for Scientists and Engineers. Capt M. J. Stahl,
 Lt Col C. W. McNichols, Lt Col T. R. Manley.
- ENY 79-105 Low Reynolds Airfoil Project. Capt R. L. Roach
- ENY 79-106 End Effect Considerations Related to Laminated Tension
 Specimens. Dr. A. N. Palazotto
- ENY 79-107 Effect of Prebuckling on Stiffened Cylindrical Panels.
 Dr. A. N. Palazotto
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- _____, "Viscoplasticity and Creep of a Three Bar Linkage," (coauthor T. Hinnerichs), Proceedings of 3rd Engineering Mechanics Conference, ASCE, Austin, Texas, 17-19 September 1979.
- _____, "Compatible, Nonlinear Strain-Displacement Relations for Composite Shells," (coauthor W. Witt), Proceedings of 16th Meeting, Society of Engineering Science, Evanston, Ill., 5-7 September 1979.
- _____, "Indeterminately Supported Deep Beams with Cutouts," (coauthors L. Durocher, and S. Ciardullo), Proceedings of Symposium on Mathematical Modeling in Structural Engineering, NASA Langley.
- _____, "A Technique for Evaluating a Unique Set of Three Weibull Parameters Considering Composite Materials," (coauthor D. Schneider), Fibre Science and Technology, Vol. 12, No. 4, July 1979, pp 269-282.
- Pryor, H. M., "Dealing With Unsolicited Ideas," SAVE Proceedings, Vol. XIV, 1979, pp 139-142.

- Rader, Capt J. E., "Computation of Differential Game Saddle Points Using Parameter Optimization Methods," Ph.D. Dissertation, University of Texas, December 1979.
- Rehg, V. R., "Relationship Between Reliability, Maintainability, Reliability Growth, the Maintenance Concept and Life Cycle Costs," Proceedings of 17th Reliability Engineering Institute, University of Arizona, November 1979.
- _____, "Developing an Effective Reliability Operational Data Systems with a High Confidence in Its Product," La Fiabilite Operationnelle, Adera, Paris, October 1978, pp 1-67.
- Reid, J. G., "A New Parallel Identification Algorithm for Linear Time-Invariant Systems: Preliminary Results," Proceedings of Workshop on Information Linkage Between Applied Mathematics and Industry, Monterey, Calif., February 1979.
- _____, "Identifiability and Experimental Design Issues in Linear Systems Identification," Proceedings of American Society of Mechanical Engineers, 2-7 December 1979, (ASME Paper 79-WA).
- _____, "Robustness Properties of Output Predictive Dead-Beat Control," (coauthors E. H. Kirkwood and R. K. Mehra), Proceedings of IEEE 1979 Decision and Control Conference, Ft Lauderdale, Fla., December 1979, pp 307-314.
- _____, (See Maybeck, P. S.).
- Roark, Capt C. W., "Public Key Cryptography," Proceedings of AIAA Minisymposium, Dayton, Oh., Fall 1979.
- Robinson, S. R., "Field Properties of Multiple Coherently Combined Lasers," (coauthor H. E. Hagemeyer), Applied Optics, Vol. 18, No. 3, 1 February 1979, pp 270-280.
- _____, "Speckle Noise Model for Optical Heterodyne Line-Seam Imagery," (coauthor B. W. Lyons), Applied Optics, Vol. 18, No. 6, 15 March 1979, pp 775-780.
- _____, "Spatial Filtering Considerations for a Line Scanning Sensor," (coauthor W. D. Strautman), Applied Optics, Vol. 18, No. 6, 15 March 1979, pp 781-790.

- Robinson, S. R., "Mixed Observable Estimation of Random Thrust Errors for Solar Electric Propulsion Spacecraft," (coauthors R. B. Asher, T. J. Teller, et. al.), Journal of Guidance and Control, Vol. 2, No. 1, January 1979, pp 49-57.
- _____, "IRCM Receiver Design," (coauthor G. L. Vaughn), Proceedings of 24th Joint Electronic Warfare Conference, Eglin, Fla., 1-3 May 1979.
- _____, "Multichannel Infrared Receiver Performance," (coauthor S. J. Dunning), Applied Optics, Vol. 18, 15 May 1979, pp 1567-1576.
- _____, "Modulation Techniques for an Airborne Laser Scanner," (coauthor R. C. Chapuran), Applied Optics, Vol. 18, 15 September 1979, pp 3176-3183.
- _____, "Performance Improvement of an Optimal Array Processor in the Presence of Multiple CW Jammers," (coauthor R. E. Leshner), Proceedings of 1979 NAECON, Dayton, Ohio, 15-17 May 1979, pp 30-31.
- _____, "Performance of a Pulse-Decode Circuit in the Presence of Interference," (coauthor G. S. Douple), Proceedings of 1979 NAECON, Dayton, Ohio, 15-17 May 1979, pp 1328-1333.
- _____, "Effect of Doppler Shifts on a Phase Comparison Receiver," (coauthor J. G. Pennett), Proceedings of International Conference on Communications, Boston, Mass., 1-13 June 1979, pp 25.4.1-25.4.5.
- _____, "Wavefront Sensing Using White Light Sources," Proceedings of International Conference on Communications, Boston, Mass., 10-13 June 1979, pp 1.3.1-1.3.5.
- _____, "Phase-lock Control Consideration for Coherently Combined Lasers," (coauthor J. B. Armor, Jr.), Applied Optics, Vol. 18, 15 September 1979, pp 3165-3175.
- _____, "Coherence Properties of Broadband Optical Fields," (coauthor P. S. Idell), Proceedings of IEEE Symposium on Information Theory, Grignano, Italy, 25-29 June 1979.
- _____, (See Maybeck, P. S.).

- Roh, W. B., "CARS Measurement in a Bluffbody Stabilized Diffusion Flame," (coauthor G. L. Switzer), Applied Optics, Vol. 18, No. 14, 1979, p 2343.
- Rustan, P. L., "Properties of the VHF Radiation of a Flash at the Kennedy Space Center," Proceedings of Spring Meeting of Journal of Geophysical Research, Washington DC, May 1979.
- _____, "Characteristics of Lightning VHF Noise," (coauthors), Proceedings of American Geophysical Union Conference, San Francisco, Calif., December 1979.
- _____, "Properties of Lightning Derived from Multiple Stations VHF Radiation Data," (coauthors), Proceedings of American Geophysical Conference, San Francisco, Calif., December 1979.
- Shankland, D. G., "Photon Statistics in Two-Mode Lasers," (coauthor B. R. Anderson), Bulletin of the American Physical Society, Vol. 24, No. 1, January 1979, p 65.
- _____, "A Note on Optical Analysis of Carrier and Dopant Concentrations in GaAs, Bulletin of the American Physical Society, Vol. 24, No. 3, March 1979, p 337.
- Stahl, Capt M. J., "Behavioral Decision Theory, Need for Achievement and Academic Performance," (coauthor A. M. Harrell), Proceedings American Institute of Decision Sciences, Reno, Nevada, March 1979.
- _____, "An Empirical Examination of the Moskos Institution-Occupation Model," (coauthors T. R. Manley and C. W. McNichols), Armed Forces and Society, 1979.
- _____, "Behavioral Decision Theory and Expectance Theory," (coauthor A. M. Harrell), Proceedings American Institute of Decision Sciences, New Orleans, November 1979.
- _____, (See McNichols, Lt Col C. W.).
- _____, (See McNichols, Lt Col C. W.).

- Stewart, Capt T. I., "A Study of Factors Affecting the Development of a General Contingency Theory of Management Macrotheoretic," Ph.D. Dissertation, University of Nebraska, 1979.
- _____, "A Proposal for Implementing a Comprehensive Management by Objectives System in the Air Force Institute of Technology," AU-AFIT-LS-2-79, November 1979.
- Taliaferro, R. T., "Macroeconomic Analysis and Public Policy," Text, School of Systems and Logistics, April 1979, 300 pp.
- Torvik, P. J., "Experiment Verification of a Generalized Derivative Uniaxial Shear Constitutive Relation," (coauthor R. L. Bagley), Proceedings 97th Meeting of Acoustical Society of America, Cambridge, Mass., 13-16 June 1979.
- _____, "Material Damping as a Means of Quantifying Fatigue Damage in Composites," (coauthor C. Bourne), Proceedings of 1979 Shock and Vibration Symposium, October 1979.
- _____, "On the Determination of Stresses, Displacements, and Stress-Intensity Factors in Edge-Cracked Sheets with Mixed Boundary Conditions," Journal of Applied Mechanics, Vol. 46, No. 3, September 1979, pp 611-617.
- Whaley, Capt P. W., "Computer Aided Design of Active and Passive Vibration Isolators for Airborne Electro Optical Packages," Proceedings of 97th Meeting of Acoustical Society of America, Cambridge, Mass., 13-14 June 1979.
- _____, "Static Acoustic Impedance Profiles in Auditory Diagnosis," (coauthor L. D. Zirkie), Proceedings of 1979 ASME Winter Annual Meeting.
- Wiesel, Capt W. E., Jr., "Orbital and Solar Resonance in the Jovian Moon System" Celestial Mechanics, 1979.
- Williams, L. J., "The Application of Instructional Systems Development to the Contract Administration Field in Continuing Education Programs," Proceedings of Society of Logistics Engineers, 14th Symposium, Tampa, Fla., 14-16 August 1979.

Wright, H., "Time Dependent Near Field Navier-Stokes Solutions of a Rectangular Jet Exhausting Normally Downward into a High-Subsonic Crossflow," (coauthors J. Van Kuren and W. C. Golbitz), Proceedings of 6th Tri-Service Chemical Laser Symposium, Kirtland AFB NM, 28-30 August 1979.

_____, "Degradation of a Laser Beam by a Two-Dimensional Turbulent Jet, (coauthors G. F. Cudahy and J. T. Van Kuren), AIAA Journal, October 1979.

VI. FACULTY PRESENTATIONS

SUMMARY

CALENDAR YEAR 1979

DEPARTMENTS*

ENG	45
DEM	33
LSY	29
ENP	28
ENY	25
ENC	20
LSP	13
ENS	13
LSM	9
LSS	5
LSCN	4
LSH	3
DET	2
Total	229

*Department symbols and locations listed on pages 5 and 6

PRESENTATION CY 1979

Allen, R. F., "Coping with Inflation," Mini-Series on KLIN Radio, Lincoln, Nebraska, March 1979.

_____, "A Perspective on Inflation: The Role of Wage-Price Guidelines," Nelson Lecture Series, North Platte, Nebraska, April 1979.

_____, "Inflation and the State of the Economy," Business Week Breakfast, Lincoln, Nebraska, March 1979.

_____, "A New Look at Disagreement about Barriers to Entry," Western Economic Association, Las Vegas, Nevada, June 1979.

Badalamente, Lt Col R. V., "Military Logistics in Iran, American Institute of Industrial Engineers, Dayton, Ohio, 9 January 1979.

Bailey, Maj W. F., "Influence of Excited States on Electron Transport Properties in Argon," 32nd Gaseous Electronics Conference, Pittsburgh, Pa., 9-12 October 1979.

_____, "Efficient H and D Production in Discharges," 32nd Gaseous Electronics Conference, Pittsburgh, Pa., 9-12 October 1979.

Baker, Capt J. T., "Cost Accounting Procedures for A Hospital Complex," AF Medical Resource Management Symposium, Sheppard AFB, Texas, May 1979.

_____, "A Hospital Preventive Maintenance Program," Hospital Commanders Symposium, Langley, Virginia, October 1979.

Balsamo, Maj S. R., "Navigation Technology," 1979 NAECON Conference, Dayton, Ohio, 15-17 May 1979.

Black, Capt R. R., "Automatic Algebra with the MACSYMA Systems," AIAA Minisymposium, Dayton, Ohio, June 1979.

Borky, Capt J. M., "Integrated Signal Conditioning for Diaphragm Pressure Sensors," (coauthor K. D. Wise), International Solid State Circuits Conference, Philadelphia, Pa., 14-16 February 1979.

_____, "Energy Monitoring and Control Systems," (coauthor G. Kostanos), 1979 NAECON Conference, Dayton, Ohio, May 1979.

Borky, Capt J. M., "Applications of Digital Signal Processing Devices," (coauthor J. W. Carl), 1979 NAECON Conference, Dayton, Ohio May 1979.

Bridgman, C. J., "Nuclear Strategic Balance: An Analysts' Approach," Air Command and Staff College, 16 January 1979.

_____, "Nuclear Reactor Power," American Food Services Executive Association, Dayton, Ohio, 17 January 1979.

_____, "Observations on Engineering Design at the Graduate Level," North Central Section ASEE Meeting, University of Akron, 6 April 1979.

_____, "Nuclear Energy Depends on How You Look at It," Ohio Electric Utilities Institute, Columbus, Ohio, 5 September 1979.

_____, "Nuclear Energy," Fairmont West High School, Kettering, Ohio, 30 October 1979.

Cain, J. P., "Issues in the Unionization of the Armed Forces," Sinclair College Labor Relations Seminar, Dayton, Ohio, September 1979.

Carl, Maj J. (See Borky, Capt J. M.)

Clark, Lt Col T. D., Jr., "Policy Analysis in USAF Logistics Management," Tenth Pittsburgh Simulation Conference, Pittsburgh, Pa., 26 April 1979.

_____, "Why Information Systems Fail," National Meeting American Institute of Decision Sciences, New Orleans, La., 19 November 1979.

_____, "Multi-Level Inventory and Repair System Management, American Institute of Decision Sciences, New Orleans, La., 19 November 1979.

_____, "Assessing Air Force Logistics Support: A Simulation Approach," Winter Simulation Conference (ORSA/TIMS), San Diego, Calif., 4 December 1979.

Cox, Capt B. J., "Air Force Civil Engineering," University of Wisconsin, 3 May 1979.

Davis, R. M., "Professionalism in Technical Communications," Publication Awards Banquet, Wright State University, 21 February 1979.

_____, "Using Surveys to Improve Courses in Technical Writing," College Conference on Composition, Minneapolis, MN., 6 April 1979.

_____, "Presenting Courses for Government and Industry: Double Your Money," Ohio Valley Technical and Business Writing Teacher's Meeting, Shakertown, KY., 3 November 1979.

D'Azzo, J. J., "Synthesis of Digital Flight Control Tracking Systems by the Method of Entire Eigenstructure Assignment," (coauthor T. A. Kennedy), 1959 NAECON Conference, Dayton, Ohio, 12-17 May 1979.

_____, "Design of Disturbance-Rejection Controllers for Linear Multi-variable Discrete-Time Systems Using Entire Eigenstructure Assignment," 18th IEEE Conference on Decision and Control, Ft. Lauderdale, Fla., 12-18 December 1979.

Demidovich, J. W., "General Management Problems," WPAFB Staff Nurses Management Program, Feb., June, Aug., 1979.

_____, "Creative Thinking," Defense System Management College, Ft Belvoir, Va., June and July 1979.

_____, "Creative Thinking," Professional Personnel Management Conference, Maxwell AFB, Alabama, Jan, Mar, Jun 1979.

_____, "Creativity," Chaplain School, Maxwell AFB, Alabama, 13 Feb 1979.

_____, "Value Systems," Fairborn Ministerial Association, 15 Feb 1979.

_____, "Have An Affair with Your Mind," Fairborn Chamber of Commerce Annual Banquet Speaker, 28 April 1979.

_____, "Creative Management," Dayton Rotary Club, 23 July 1979.

_____, "Creative Problem Solving," Wright State University Creative Problem Solving Institute, 3 August 1979.

Demidovich, J. W., "Crawford Slip Method," Montgomery County Administrators, NCR, Dayton, Ohio, 3 August 1979.

_____, "Need for Ideas," TRADOC Post Engineers Conference, Ft Monroe, 22-23 August 1979.

_____, "How to Improve the Management of Information," Financial Executive Institute, Dayton, Ohio, 13 September 1979.

_____, "QC Circles," WR-ALC Executive Development Program, 24 Sept 1979.

_____, "Crawford Slip Method," SAC Hospital Commanders & Administrators Conference, 17 October 1979.

_____, "QC Circles," DESC Executive Development Association, Dayton, Ohio, 1 November 1979.

_____, "Creative Management," DESC Management Development Association, Dayton, Ohio, 5 November 1979.

_____, "Crawford Slip Method and QC Circles," 20th Annual TAC Contracting Conference, 6-8 November 1979.

_____, "Motivations," AMIS Conference, WPAFB, Ohio, 27 November 1979.

_____, "Contemporary Management Approaches," TAC Civil Engineering and Systems Conference, Langley, VA., 28 November 1979.

_____, (See Rehg, V. R.)

Dierker, Lt Col R. J., "DOD's Role in Foreign Military Sales," Air Command and Staff College Seminar, Maxwell AFB, 21 May 1979.

Dorko, E. A., "Kinetics of Kiton Red S Photodecomposition Under CW and Photolytic Conditions," 11th Annual ACS Central Regional Meeting, Columbus, Ohio, 7 May 1979.

Fontana, R. E., "Productivity and Continuing Education," 3rd Annual Professional Development Conference, Dayton, Ohio, 18 April 1979.

Franke, M. E., "Oscillatory Pressure Measurements in Hydraulic Systems," (coauthors S. Katz and P. Lundquist), AIAA Mini-Symposium, Dayton, Ohio, 21 March 1979.

_____, "Laboratory Reserve Program," AFOSR Reserve Conference, Bolling AFB, Washington DC, 5 August 1979.

_____, "Experimental Study of Hydraulic Systems Transient Response Characteristics," (coauthors P. Lindquist and A. Zur Society of Automotive Engineers (SAE), A-6 Committee, Aerospace Fluid Power and Control Technologies, Lake Tahoe, NV., 11 October 1979.

Hardin, Capt D. D., "Singularities in Diffusion Theory Eigenvalue Problems," National Topical Meeting on Computational Methods in Nuclear Engineering," Williamsburg, Va., 23-24 April 1979.

Harrington, Maj T. C., "Zero-Base Budgeting-Clown of a Thousand Faces," (coauthors C. P. McLaughlin and W. A. Fischer), National Meeting of Institute of Management Sciences, New Orleans, La., 2 May 1979.

Hartrum, T. C., "An Application of Clustering Techniques in Computer Performance Evaluation," (coauthor J. W. Thompson), 1979 ACM Computer Science Conference, Dayton, Ohio, 20-24 February 1979.

_____, "The Application of Clustering Techniques in Computer Performance Modeling (coauthor J. W. Thompson), 15th Annual Computer Performance Evaluation User's Group, San Diego, CA, 14-19 October 1979.

Hendrix, Lt Col W. H., "Factor Identification and Factor Score Estimation in Organizational Environment," 87th American Psychological Association Convention, New York, 2 September 1979.

Hengehold, R. L. "Photoluminescence of Mg-Implanted InP," Fall Meeting of American Physical Society, Columbus, Ohio 3 November 1979.

_____, "Laser Annealing of Si and GaAs," Fall Meeting of American Physical Society, Columbus, Ohio, 3 November 1979.

- Hengehold, R. L., "Optical Reflectivity of Laser Annealed Semiconductors,"
Fall Meeting of American Physical Society, Columbus, Ohio,
3 November 1979.
- Houpis, C. H., "Digital Control Systems Mini-Course (coauthor G. B. Lamont)
AIAA Mini-Symposium, Dayton, Ohio, 21-22 March 1979.
- Johnson, J. R., "Stress," ATC DE Annual Meeting, Randolph AFB, Texas,
10 January 1979.
- _____, "Time Management," Nurses, Base Hospital, WPAFB, Oh., 12 January
1979.
- _____, "Personal Planning," SAC Base Housing Officers, Barksdale AFB,
La., 30 January 1979.
- _____, "Transactional Analysis," Experience Compression Laboratory, Miami,
Fla., 17 February 1979.
- _____, "A Theory of Values," Marketing Honorary, Wright State University,
21 February 1979.
- _____, "One Day Workshop," American Institute of Industrial Engineers,
Dayton, Ohio, 15 March 1979.
- _____, "Awards Talk," Ben Franklin Club, Dayton, Ohio, 20 March 1979.
- _____, "Stress Management," Civil Engineering Honorary, University of
Dayton, 5 April 1979.
- _____, "Communications," Ohio Safety Council Meeting, Dayton, Ohio,
16 April 1979.
- _____, "Stress," Central and Southwest Ohio Plant Engineers, Richenbacker AFB,
Ohio, 17 April 1979.
- _____, "Values," SAME, University of Illinois, 26 April 1979.
- _____, "Stress," American Businesswomen, Dayton, Ohio, 8 May 1979.
- _____, "Stress," Top Management Group, Warner-Robins AFB, Ga., 15-16 May
1979.

- Johnson, J. R., "Goal Setting," Personnel Staff, Warner-Robins AFB, GA, 16 May 1979.
- _____, "Time Management," Dietetic Supervisors Seminar, VA Center, Dayton, Ohio, 24 May 1979.
- _____, "Stress," Jay Cees, Beavercreek, Ohio, 6 June 1979.
- _____, "Stress," Southwest Ohio School Boards Association, Dayton, Ohio, 26 June 1979.
- _____, "Stress," Great Lakes Association of Fire Chiefs, Dayton, Ohio, 13 July 1979.
- _____, "Stress," Xenia Rotary Club, Xenia, Ohio, 24 July 1979.
- _____, "Stress," Annual Meeting of Piqua Red Cross, Piqua, Ohio, 27 September 1979.
- _____, "Values," AFLC Personnel Directorate Meeting, WPAFB, OH, 9 October 1979.
- _____, "Stress," AF Reserve Civil Engineers Annual Workshop, Richards Gebaur AFB, MO, 19-20 October 1979.
- _____, "Management by Objectives," OSI Annual Meeting, WPAFB, OH, 6 November 1979.
- _____, "Stress," Marketing Honorary, Wright State University, 19 November 1979.
- _____, "Installing Safety Programs," Ohio Safety Conference, Dayton, Ohio, 26 November 1979.
- _____, "Stress," Handicapped Awareness Seminar, VA Center, Dayton, Ohio, 5 December 1979.
- _____, "Stress," International Personnel Managers Association, Dayton, Ohio, 6 December 1979.

Johnson, J. R., "Developing Engineers," SAME, Dallas, Texas,
10 December 1979.

———, "Values," Junior Officer's, Tyndall AFB, Fla., 11 December
1979.

———, "Human Relations," SAME, Tyndall AFB, Fla., 11 December
1979.

Jones, J., Jr., "Solutions of the Lyapunov Matrix Equation," 85th
Meeting of American Mathematical Society, Biloxi, Miss.,
24-27 January 1979.

———, "Block Diagonalization of Ill-Conditioned Matrices, 2nd Annual
Conference on Linkage Between Applied Mathematics and Industry,
Monterey, Calif., 20-24 February 1979.

———, "Block Diagonalization of Continuous Matrices and Reducibility
of Linear Time Varying Systems," AIAA Minisymposium, Dayton,
Ohio, 21 March 1979.

———, "Solutions of Ordinary Differential Equations by Finite Element
Method I," Ohio Section - Mathematics Association of America,
Miami University, 20-22 April 1979.

———, "Computer Solutions of Second Order Non-Linear Differential
Inequalities Using Finite Element Methods II," 3rd International
Symposium on Computer Methods for Partial Differential
Equations, Lehigh University, Pa., 20-22 June 1979.

———, "The Matrix Equation $AXB + CXD = E$," 83rd Summer Meeting of
American Mathematics Society, University of Minnesota,
21-22 August 1979.

———, "Unconstrained Optimization Theory and Finite Element Methods,"
SIAM 1979 Fall Meeting, Denver, Colo., 12-14 November 1979.

Kabrisky, M., "Linear Models of Human Visual Perception," AIAA
Minisymposium, Dayton, Ohio, 21-22 March 1979.

Kankey, Capt R. D., "The DOD Cost Analysis Education Program,"
13th Annual DOD Cost Analysis Symposium, Leesburg, Va.,
27 September 1979.

_____, "Cost Analysis Education Program," USAF Cost and Management Analysis
Workshop, Andrews AFB, Md., 9 November 1979.

_____, "Design to Cost/Life Cycle Cost," Air Command and Staff College,
Maxwell AFB, Ala., 4 May 1979.

Knipfer, Lt Col R. E., "The Right Job for the Right Person," Human
Factors Society, Dayton, Ohio, 18 January 1979.

_____, "A Study to Quantify the Physical Demands Placed Upon Personnel
Assigned to an Air Force Maintenance Specialty," 23rd Annual
Meeting of Human Factors Society, Boston, Mass., 31 October 1979.

Lamont, G. B., "Proposal for a New General Purpose Language," ACM
Computer Science Conference, Dayton, Ohio, 19-22 February 1979.

_____, "Validation of Closed Queueing Models for DEC-10," ACM Sigmetrics
Workshop on Analytical Models, University of Maryland, 12-13 March
1979.

_____, Small Computer System Education at AFIT," ASEE North Central
Section Conference, University of Akron, Ohio, 6-7 April 1979.

_____, "Microprocessor-Based Digital Autopilot Development for the
XBQM-106 Mini-RPV," (coauthors O. Koger and D. Tietz) 1979 NAECON
Conference, Dayton, Ohio, 15-17 May 1979.

_____, "Optimal Digital Control and Estimation of Isolation Platform,"
(coauthor P. Toler), AIAA Guidance and Control Conference, Boulder,
Colo., August 1979.

_____, (See Houpis, C. H.).

Lee, D. A. "System Identification: Example of Regularizable Ill-Posed
Problems," 85th Annual Meeting American Mathematical Society,
Biloxi, Miss., 27 January 1979.

_____, "Computational Considerations for Some Regularizable Ill-Posed
Problems in Engineering," 4th International Symposium on
Mathematical Theory of Networks and Systems, Delft, The Netherlands,
5 July 1979.

Lee, D. A., "Mathematical Principles of Data Inversion," ARPA/AF
Review of Progress in Quantitative Non-Destructive Evaluation,
La Jolla, Calif., 12 July 1979.

_____, "Approaches to the Practical Treatment of Some Regularizable
Ill-Posed Problems in Engineering and Applied Science,"
International Symposium on Ill-Posed Problems, University of Delaware,
5 October 1979.

_____, "Regularizable Ill-Posed Problems," University of Missouri-Columbia,
12 October 1979.

LeMarr, Capt M., "Legal Defense for Government Contractor Claims,"
AFLC/JAB Seminar, Dyess, TX., December 1979.

Louder, Maj R. B., "Wright-Patterson AFB Story," AFROTC, WPAFB, OH.,
June 1979.

_____, "Wright-Patterson AFB Story," Daughters of American Revolution,
Dayton, Ohio, September 1979.

_____, "Management by Objectives," SBA, Washington DC., July 1979.

Luke, T. E., "Optical Reflectivity of Laser Annealed Semiconductors,"
(coauthors B. Mullins and R. L. Hengehold), Fall Meeting, American
Physical Society, Columbus, Ohio, 2-3 November 1979.

_____, "Laser Annealing of Si and GaAs," (coauthors K. R. Bradley,
R. L. Hengehold, and Y. S. Park), Fall Meeting American Physical
Society, Columbus, Ohio, 2-3 November 1979.

_____, "High Temperature Electrical Transport Measurements in Silicon,"
(coauthors G. E. Rattray, P. J. Hemenger), Fall Meeting American
Physical Society, Columbus, Ohio, 2-3 November 1979.

_____, Graduate Electro-Optics Education for USAF," Electro-Optical
Technical Symposium and Workshop (SPIE) Huntsville, Ala., 22-25 May
1979.

_____, (See Robinson, Capt S. R.).

Mahoy, J. O., "The Starting Points," Federal Publications, Arlington, Va., 4 February 1979.

_____, "Patent and Data Rights in Government Contracts," Federal Bar Association Convention, San Antonio, Texas, 27 September 1979.

Manley, Lt Col T. R., (See McNichols, Lt Col C. W. III)

_____, (See McNichols, Lt Col C. W. III)

_____, (See McNichols, Lt Col C. W. III)

Marsh, Capt J. E., "A New Element for Finite Element Analysis of Potential Flow Problems," (coauthor F. E. Eastep), 17th Aerospace Sciences Meeting, New Orleans, La., January 1979.

_____, "An Application of the Finite Method for Steady Subsonic and Transonic Flows Over Thin Airfoil," (coauthor F. E. Eastep), 2nd International Conference on Computations Methods in Nonlinear Mechanics, Austin, TX, May 1979.

Maybeck, P. S., "Enhanced Fire Control System Filtering via Refined Air-to-Air Missile Acceleration Modeling," (coauthors J. Negro, S. J. Cusumano, M. De Ponte, Jr.) 1978 IEEE Conference on Decision and Control, San Diego, Calif., January 1979.

_____, "Kalman Filtering," AIAA Minisymposium, Dayton, Ohio, March 1979.

_____, "A Target Tracker Using FLIR Data," AIAA Minisymposium, Dayton, Ohio, March 1979.

_____, "Kalman Filtering: Concepts, Implementation, and Extension," 1979 IEEE NAECON Conference, Dayton, Ohio, May 1979.

_____, "An Extended Kalman Filter for Use in a Shared Aperture Medium Range Tracker," (coauthor D. E. Mercier), 1979 IEEE NAECON Conference, Dayton, Ohio, May 1979.

_____, "Tracking a Swarm of Fireflies in the Presence of Stationary Stragglers," (coauthor S. R. Robinson, J. M. Santiago, Jr.), 1979 International Symposium on Information Theory, Grignano, Italy, 25-29 June 1979.

Maybeck, P. S., "A Target Tracker Using Spatially Distributed Infrared Measurements," (coauthor D. E. Mercier), 18th IEEE Conference on Decision and Control, Fort Lauderdale, Fla., 12-15 December 1979.

_____, (See Reid, Maj J. G.)

McCarty, D., "Acquisition Management," ASD Reserve Training, WPAFB, Oh., 19 March 1979.

McNichols, Lt Col C. W. III, "An Expectancy Theory Prediction of the Retention of Air Force Scientists and Engineers," (coauthors T. R. Manley, and M. J. Stahl), Inter-University Seminars on Armed Forces and Society, Maxwell AFB, Ala., 3-5 June 1979.

_____, "Alcoholism and Alcohol-Related Problems Among USAF Civilian Employees," (coauthors T. R. Manley and M. J. Stahl), National Council on Alcoholism, Washington DC., 2 May 1979.

_____, "Alcohol Prevalence Among AF Civilian Employees-An Update of Findings," (coauthors T. R. Manley and M. J. Stahl), National Institute on Alcohol Abuse and Alcoholism (HEW), Washington, DC. 18 September 1979.

_____, "Alcohol Prevalence Among AF Civilian Employee-An Update of Findings," First World-Wide DOD Drug/Alcohol Conference, Arlington, Va., 10-12 September 1979.

Meadows, J. D., "Problems Solving and Decision Making Alternative Methodology," HQ Air Force Communications Service, Scott AFB, Ill., 7 September 1979.

Melendez, Maj K., "Trends, Recent Developments, and Mathematical Research Areas in Computer Programming Languages," Wright State University, Dayton, Ohio, 17 November 1979.

Moore, A. H., "Adaptive Estimation of Life Distribution Based on a Family of Logarithmic Power Distributions," 169th Meeting of Institute of Mathematical Statistics, Washington DC, 14 August 1979.

Moore, A. H., "Adaptive Estimation of Life Distribution Based on a Family of Logarithmic \pm Distributions," (coauthor R. A. Ethridge), 169th Meeting of Institute of Mathematical Statistics, Washington DC, 14 August 1979.

———, "Fixed Sequential Test Plans for Reliability of a System Whose Failure Distributions is a Two Parameter Weibull," 1979 Annual Meetings of American Statistical Association, Washington, DC, 16 August 1979.

Nickel, Maj G. H., "Nuclear Effects," Air Command and Staff College, 23 January 1979.

———, "Nuclear Energy, Fission and Fusion," Montgomery and Greene County Science Teachers, Dayton Convention Center, 20 April 1979.

Osgood, D. C., "Contract Clauses-Title, Risk and Progress Payments for Government Property," National Property Management Association Seminar, San Francisco, Calif., 26 October 1979.

Palazotto, A. N., "The State of the Art of Elastic-Plastic Analysis as Applied to Plates and Shells," ASCE Annual Convention, Boston MA, April 1979.

———, "A Parametric Study Relating to the Buckling of Axially Compressed Stringer Stiffened Shells with Cutouts," (coauthor D. Nelson), AIAA 20th Structures, Structural Dynamics and Materials Conference, St. Louis MO, 4-6 April 1979.

———, "Design and Analysis of a High Pressure Apparatus," ASME Design Engineering Conference, (coauthors K. C. Rolle and J. N. Crisp), Chicago ILL, 9 May 1979.

———, "End Effect Considerations Related to Laminated Composite Tension Specimens," (coauthor S. Smith), Annual Springs Meeting of the Society for Experimental Stress Analysis, San Francisco, CA, 15-20 May 1979.

———, "The Analysis of a Ring Stiffened Cylindrical Shell Acting Under a Concentrated Load," (coauthors R. Taylor and J. Crisp), Seventh Canadian Congress of Applied Mechanics, University of Sherbrooke, Quebec, Canada, 27 May - 1 June 1979.

Palazotto, A. N., "The Effects of Prebuckling on Stiffened Cylindrical Panels," (coauthor M. Mulholland), Seventh Canadian Congress of Applied Mechanics, University of Sherbrooke, Quebec, Canada, 27 May to 1 June 1979.

_____, "Series Expansion for Finite Difference Approximation to Boundary Value Problems," Seventh ASCE Conference on Electronics Computation, Washington University, St. Louis MO, 6-8 August 1979.

_____, "Compatible Nonlinear Strain-Displacement Relations for Composite Shells," (coauthor W. Witt), 16th Annual Meeting, Society of Engineering Sciences, Evansville IL, 7 September 1979.

_____, "Viscoplasticity and Creep of a Three Bar Linkage," (coauthor T. D. Hinnerichs), Third ASCE/EMD Specialty Conference, Austin TX, 18 September 1979.

_____, "Buckling Analysis of Laminate Component Cylindrical Shells," (coauthor R. Gallo), Third International Conference on Vehicle Structural Mechanics, Troy MI, 10 October 1979.

_____, "Investigation of St. Venant's Principle as Related to Laminated Composite Plates," (coauthor S. R. Smith), ASCE Convention, Atlanta, GA, 29 October 1979.

_____, "Finite Element Analysis of a High Pressure Apparatus," ASME Design Engineering Conference, Boston MA, 10 December 1979.

Pedrotti, L. S., "Modern Optics for Engineers," Laser Institute of America, Albuquerque NM, 12-13 February 1979.

_____, "Recent Developments in High Energy Lasers," Ball State University, Muncie, In., 5 April 1979.

_____, "Lasers-The Light Fantastic," Dayton Honor Seminar Program, Dayton, Ohio, 22-29 March 1979.

_____, "Laser Radiometry and Beam Diagnostics," Laser Institute of America, Denver, Colo., 9-10 April 1979.

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_____, "Graduate Education in Physics at AFIT," USAFA Physics Club, Colorado Springs, Colo., 22 August 1979.

_____, "High-Power Lasers," Laser Institute of America, Colorado Springs, Colo., 26-27 November 1979.

- Peppers, J. G., Jr., "A Personal Challenge," Ben Franklin Club, Dayton, Ohio, 28 June 1979.
- _____, "A Look at US Military Logistics in the Year 2000," Society of Logistics Engineers, Dayton, Ohio, 30 October 1979.
- _____, "Motivation," Foreman's Club, WPAFB, Ohio, 28 November 1979.
- _____, "A View of US Military Logistics in the Year 2000," Society of Logistics Engineers, Detroit, Mich., 30 October 1979.
- Pryor, H. M., "Dealing with Unsolicited Ideas," SAVE Conference, Washington DC, 24 May 1979.
- _____, "VE for the B-52 Mod Program," Boeing Aircraft, Wichita KS, 11 December 1979.
- Pursch, Lt Col (USA) W. C., "Bridging the Managerial Generation Gap," Purchasing Executive Management Seminar, Miami University, 3 October 1979.
- _____, "Significant Differences Between Government and Industry Purchasing Methods," Miami University, 29 November 1979.
- Rauch, Maj D. E., "Innovative Methods of Contract Pricing," Federal Agency Pricing Group, Washington DC, 6 December 1979.
- Regulinski, T. L., "Markovian Availability Model for a Network of Communicating Computers," NATO AGARD Conference, Ankara, Turkey, 9-15 April 1979.
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- _____, "Quality Circles - Are They Worth It?" American Society for Quality Control, Dayton, Ohio, 3 March 1979.
- _____, "Do You Want to Increase Productivity? Try Q. C. Circles," American Society for Quality Control, Tampa FL., May 1979.
- _____, "Reliability," 34th Midwest American Society for Quality Control, Dayton, Ohio, 11 October 1979.

Rehg, V. R., "The Japanese Quality Control Circles," (coauthor J. W. Demidovich), Executive Development Association, Dayton, Ohio, 1 November 1979.

_____, "The Relationship Between LCC and Reliability, Maintainability Reliability Growth and the Maintenance Concept," 17th Annual Reliability Engineering Institute, University of Arizona, 15 November 1979

_____, "QC Circles - The Key to Improving Productivity," American Society for Quality Control, St Petersburg, Fla., October 1979.

Reid, Maj J. G., "Robustness Properties of Output Predictive Dead-Beat Control," (coauthor E. H. Kirkwood and R. K. Mehra), 18th IEEE Conference on Decision and Control Conference, Fort Lauderdale, Fla., 12-15 December 1979.

_____, "A New Parallel Identification Algorithm for Linear Time - Invariant Systems: Preliminary Results," 2nd Annual Workshop, Information Linkage Between Applied Mathematic and Industry, Monterey, Calif., February 1979.

_____, "Estimation of Aircraft Target Motion Using Pattern Recognition Orientation Measurements," (coauthors J. D. Kendrick, and P. S. Maybeck), 1979 IEEE Conference on Decision and Control, San Diego, Calif., January 1979.

_____, "Identifiability and Experimental Design Issues in Linear System Identification," 1979 Winter Meeting of American Society of Mechanical Engineers, New York, 2-7 December 1979.

_____, (See Maybeck, P. S.).

Reynolds, D. E., "Management Cybernetics-An Alternative to Catastrophe," Utah Chapter of Society of Logistics Engineers, Hill AFB, 25 January 1979.

Roach, Capt R. L., "Summary of Research Activities," University of Sheffield, Sheffield UK, 25 June - 6 July 1979.

Roark, Capt C. W., "An Introduction to Cryptography," AIAA Minisymposium, Dayton, Ohio, March 1979.

_____, "The Lower Case Fix and Percom Mini-Disks for the TRS-80," DATUG Users Group Meeting, Dayton, Ohio, May 1979.

Robinson, Capt S. R., "Adaptive Processing in Optical Communication and Imaging," IEEE Ninth Communication Theory Workshop Trabuco Canyon, Calif., 22-25 April 1979.

———, "IRCM Receiver Design," (coauthor G. L. Vaughn), 24th Joint Electronic Warfare Conference, Eglin AFB, 1-3 May 1979.

———, "Performance Improvement of an Optimal Array Processor in the Presence of Multiple CW Jammers," (coauthor R. E. Lesker), NAECON Conference, Dayton, Ohio, 15-17 May 1979.

———, "Performance on a Pulse-Decode Circuit in the Presence of Interference (coauthor G. S. Duple), NAECON Conference, Dayton, Ohio, 15-17 May 1979.

———, "Graduate Electro-Optics Education for the USAF," (coauthors R. L. Hengehold and T. F. Luke), Electro-Optical Technical Symposium and Workshop (SPIE), Huntsville, Ala., 22-25 May 1979.

———, "Effects of Doppler Shifts on a Phase Comparison Receiver," (coauthor J. G. Pennett), International Conference on Communications, Boston, Mass., 10-13 June 1979.

———, "Wavefront Sensing Using White Light Sources," International Conference on Communications, Boston, Mass., 10-13 June 1979.

———, "Coherence Properties of Broadband Optical Fields," (coauthor P. S. Idell), IEEE International Symposium on Information Theory, Grignano, Italy, 25-29 June 1979.

———, "Effect of Speckle on a Scanned-Laser Imaging Ranging System," (coauthor B. W. Newton), 1979 Meeting of Optical Society of America, 8-12 October 1979.

———, "Phase-Contract Measurement for Wave-Front-Sensing Applications," (coauthor T. E. Luke), 1979 Meeting of Optical Society of America, 8-12 October 1979.

———, "Maximum A Posteriori Estimation of Wavefront Aberrations," (coauthor R. Barakat), 1979 Meeting of Optical Society of America, 8-12 October 1979.

- Robinson, Capt S. R., "Quantum Limited Optical Tracking,"
(coauthor D. L. Snyder), 18th Conference on Decision and
Control, Fort Lauderdale, Fla., 12-15 December 1979.
- _____, (See Maybeck, P.S.).
- Roh, W. B., "CARS Measurements in Simulated Practical Combustion
Environment," 178th ALS Annual Meeting, Washington, DC,
10-11 September 1979.
- Rustan, Capt P. L., Jr., "Properties of the VHF Radiation of a
Flash at the Kennedy Space Center," Spring Meeting of Journal
of Geophysical Research, Washington DC, 26-30 May 1979.
- _____, "Characteristics of Lightning VHF Noise," (coauthors),
American Geophysical Union Conference, San Francisco, Calif.,
2-5 December 1979.
- _____, "Properties of Lightning Derived from Multiple Station
VHF Radiation Data," (coauthors), American Geophysical Union
Conference, San Francisco, Calif., 2-5 December 1979.
- Shankland, D. G., "Photon Statistics in Two-Mode Lasers," (coauthor
B. Anderson), New York Meeting of American Physical Society,
New York, 1 February 1979.
- _____, "Application of Finite-Element Techniques to Aircraft
Lightning Strike Response Calculations," AIAA Minisymposium,
Dayton, Ohio, 21 March 1979.
- Stahl, Capt M. J., "Behavioral Decision Theory and Expectancy
Theory," American Institute of Decision Sciences Meeting,
New Orleans, La., November 1979.
- _____, (See McNichols, Lt Col C. W., III).
- _____, (See McNichols, Lt Col C. W., III).
- _____, (See McNichols, Lt Col C. W., III).

Stan, Capt R. L., "Emergency Building Temperature Regulations,
American Society of Heating, Refrigerating and Air Conditioning
Engineers, Dayton, Ohio, 3 October 1979.

Taliaferro, R. T., "An Alternative Method for Financing Primary and
Secondary Education in Ohio," Annual Meeting, Ohio Academy of
Science, Tiffin, Ohio, 20 April 1979.

_____, "State and Local Housing Finance Authorities and the Resident
Mortgage Market," Annual Meeting Eastern Economic Association,
Boston, Mass., 12 May 1979.

Torvik, P. J., "Experimental Verification of a Generalized Derivative
Uniaxial Shear Constitutive Relation for the Elastomer 3M-467,"
(coauthor R. L. Bagley), 97th Meeting of Acoustical Society of
America, Cambridge Mass., 15 June 1979.

_____, "Material Damping as a Means of Quantifying Fatigue Damage in
Composites," (coauthor C. A. Bourne), 50th Shock and Vibration
Symposium, Colorado Springs, Colo., 16-18 October 1979.

Whaley, Capt P. W., "Computer Aided Design of Passive and Active
Isolations for Airborne Electro-Optical Systems," (coauthor
J. Pearson), 97th Meeting of the Acoustical Society of America,
Cambridge, Mass., 12-16 June 1979.

_____, "Static Acoustic Impedance Profiles in Auditory Diagnosis,"
(coauthor L. D. Zirkle), ASME Winter Annual Meeting, New York,
2-7 December 1979.

Wiesel, Capt W. E., "A Collisional Origin for the Themis Family,"
American Astronomical Society, Tucson AZ, March 1979.

Wiviott, M., "Patent Rights and Proprietary Information as Related
to Government Contracting," Dayton Patent Bar Association,
Dayton, Ohio, 6 December 1979.

_____, "Patent Rights and Proprietary Information," Federal Acquisition
Institute, Washington DC, 17 July 1979.

Wright, H. E., "Time Dependent Near Field Navier-Stokes Solution of a
Rectangular Jet Exhausting Normally Downward Into a High-Subsonic
Cross Flow," Tri-Service Chemical Laser Symposium, 28-30 August
1979, AFWL.

_____, "Development of a Photon Correlation Laser Velocimeter for Use
in Turbulent Mixing Region Measurements," 16th JANNAF Combustion
Meeting, Naval Postgraduate School, Monterey CA, 10-14 September
1979.

V. MASTER AND DOCTORAL TITLES

CALENDAR YEAR 1979--SUMMARY

MASTERS THESES

SPONSORS

AFFDL	32
AFAL	20
ASD	19
AFIT	18
AFAPL	14
RADC	13
HQ AFLC	11
HQ USAF	9
AFWL	8
AMRL	6
AFLC/ILC	6
SAMSO	6
AFML	5
HQ SAC	5
AFHRL	5
AFBMRC	5
HQ AFCS	4
AFCEC	3
AFALD	2
USA	2
OSD	2
HQ AFSC	2

DEPARTMENTS*

ENG	57
ENS	38
ENY	32
LSM	20
ENP	18
ENC	17
LSS	13
LSY	7
LSP	7
LSH	5
RM	3
Total	217

and one each from ATC, USAFAC, AEDC, AFSDC, SAM, DARPA, FTD, HQ TAC, HQ MAC, WR-ALC, SM-ALC, 2750 ABW, 552 AWACW, AFMPC, AFRPL, DCEC

*Department symbols and locations listed on pages 5 and 6

MASTER THESIS TITLES

CALENDAR YEAR 1979

LSSR/1-79A	A Dynamic Policy Model of the Department of Defense Systems Acquisition Process	Ms S. A. Kaffenberger Capt. D. P. Martin, II Sponsor: HQ USAF
LSSR/2-79A	A Dynamic Model of the Initial Spares Support List Development Process	Capt J. A. Riess, Jr. Capt W. A. Allen Sponsor: AFLC/LORR
LSSR/3-79A	Organizational Change Patterns in the Air Force System Program Office	Capt D. V. Conners Capt D. M. Maloney Sponsor: AFHRL/ASR
LSSR/4-79A	A Parametric Management Tool for Estimating Simulator Software Size	Capt G. N. Frey Capt K. L. Wildung Sponsor: ASD/ENETC
LSSR/5-79A	Turnover of Air Force Enlisted Aircraft Maintenance Personnel	Capt J. W. Putt Capt S. K. Williams Sponsor: AFIT
LSSR/6-79A	A Summary and Analysis of the Logistics Support Cost Model Application to the ACF/F-16 Weapon System	Capt W. R. Davis Capt J. R. Wysowski Sponsor: ASD/YPL
LSSR/7-79A	An Assessment of Relevant Decision-Making Factors Used in the Purchase of Reprourement Data	Capt R. L. Johnson Capt M. A. Southwick Sponsor: AFIT
LSSR/8-79A	An Analysis of the Military Retirement Plan Recommended by the President's Commission on Military Compensation	Capt M. Calvert Sponsor: OSD/MRA&L
LSSR/9-79A	Evaluating the Ability of the Maintenance Data Collection System to Enhance the Air Force Munitions Product Assurance Program	Capt M. C. Cox Capt J. W. O'Neal Sponsor: AFLC/XRPE
LSSR/10-79A	A Design for a Management System for Headquarters Air Force Logistics Command Word Processing	Mr. K. W. Glasser Mr. A. B. Thomas Sponsor: AFLC/DAX
LSSR/11-79A	An Investigation of Changes in Direct Labor Requirements Resulting From Changes in Avionics Production Rate	Capt D. Y. Stevens Capt J. Thomerson Sponsor: AFBMR/RDCB

LSSR/12-79A	The Value of the Base Level Industrial Engineer	Capt B. C. Caples Capt A. J. Kwan Sponsor: AFESC/DEMG
LSSR/13-79A	Management Cybernetics: An Application to Staff Officer Repair and Overhaul Division of the Royal Australian Air Force	Sq Ldr R. D. Wilkes Capt D. C. Allard Sponsor: AFLC/ILC
LSSR/14-79A	An Analysis of the Usefulness of the Graduate Logistics Program	Capt K. R. Brown Capt D. M. Hollingsworth Sponsor: AFIT
LSSR/15-79A	An Analytical Evaluation of Procedures for Closing Cost-Type Contracts	Mr. M. B. Bristow Mr. J. E. Moad Sponsor: HQ USAF
LSSR/16-79A	A Study into the Relationships Between Air Force Logistics Doctrine and Maintenance Posture Improvement Program Policies	Capt B. M. Evans Capt A. Ferraro Sponsor: HQ AFLC
LSSR/17-79A	Productivity Measurement in a Base Level USAF Civil Engineering Organization	Capt G. P. Baumgartel Capt T. D. Johnson Sponsor: AFIT
LSSR/18-79A	Military Relationships Between Spain and the United States Since 1953	Capt J. T. Roberts Capt E. P. Ruhmann Sponsor: AFIT
LSSR/19-79A	The Use of the Maurer Factor for Estimating the Cost of a Turbine Engine in the Early Stages of Development	Capt C. W. Barrett, Jr. Capt M. J. Koenig Sponsor: AFAPL
LSSR/20-79A	Validation of the Detroit Diesel Allison Logistics Support Cost Model (Program OS590)	Capt H. E. Creek Capt C. N. Harlambakis, Jr. Sponsor: AFAPL
LSSR/21-79A	Evaluation of the Engineering Change Proposal Cost Evaluation Model	Capt J. W. Kehres Capt E. D. Kolpin Sponsor: AFALD/XRS
LSSR/22-79A	The Impact of Certificates of Competency on Air Logistics Center Contracting	Maj C. G. Simko, Jr. Capt P. R. Davis Sponsor: WR-ALC

LSSR/23-79A	A Study to Develop Optimization Algorithms for Aircraft Wing Structures	Maj R. A. McNamara, Jr. Capt G. W. Abbott Sponsor: AFFDL/FBS
LSSR/25-79A	An Investigation of Learning Curve Theory Application to Air Force Depot Level Maintenance Budgeting and Planning	Mr. W. W. Vincent Mr. W. C. Walker Sponsor: AFLC/MA
LSSR/26-79A	Contract Disputes: An Analysis of Key Issues	Capt G. S. Sulzemeier Capt D. D. Underwood Sponsor: HQ USAF
LSSR/27-79A	Presentation of the Letter of Offer and Acceptance to Iran for the F-16: A Case Study	Capt J. M. McClaugherty Capt G. J. Niemiec Sponsor: HQ USAF/PAI
LSSR/28-79A	The Supply Effectiveness of Cooperative Logistics	Capt G. L. Ratley Ms K. D. Pendley Sponsor: AFLC/ILC
LSSR/29-79A	A Historical Analysis of Three Main Issues Affecting United States Foreign Policy in the Middle East	Capt J. C. Conlin Capt J. R. Luce Sponsor: AFIT
LSSR/1-79B	Development of Improved Criteria for Determining the Need for Pricing Staff Action	Capt T. J. McConnell Ms M. A. Martinez Sponsor: AFIT
LSSR/2-79B	Management Cybernetics: An Application to the Development of a Conceptual Model of the Software Acquisition Management Discipline	Capt R. E. Peschke Capt M. L. Sherrill Sponsor: SM-ALC
LSSR/3-79B	A Statistical Analysis to Determine the Supply Effectiveness of the Cooperative Logistics Supply Support Arrangement (CLSSA) Program	Maj C. E. Johnson Col M. M. Moradmand (IIAF) Mr. J. R. Callahan Sponsor: AFLC/ILC
LSSR/4-79B	Space Transportation System Western Launch Site Construction Management Information System - A Case Study	Capt G. S. Griffin Capt J. M. Mardis Sponsor: SAMSO/DE

LSSR/5-79B	An Analysis of the Relationships Between Demographic Factors and Maintenance Technicians' Attitudes Towards Technical Data	Capt J. A. Almeida Capt R. L. Harvey Sponsor: AFHRL
LSSR/6-79B	A Study of the Relationship Between Attitudes of Missile Combat Crew Members and Missile Wing Operations Performance	Capt R. J. Anarde Capt D. H. Bell Sponsor: HQ SAC
LSSR/7-79B	Turnover of Non-Rated Company Grade Aircraft Maintenance Officers (AFSC 40XX)	Capt G. E. Mills, Jr. Capt W. A. Osadchey Sponsor: AFHRL
LSSR/8-79B	Cooperative Logistics Supply Support Arrangement Pricing Relationships Between Programmed and Nonprogrammed Requisitions	Capt J. A. Breed Maj J. S. Winn Sponsor: AFLC/ILC
LSSR/9-79B	A Dynamic Policy Model of the United States Arms Transfer Process	Sq Ldr D. C. Chipman, Capt J. T. Cunningham Sponsor: AFLC/ILC
LSSR/10-79B	Development of a Bird/Aircraft Strike Hazard Assessment Methodology	Capt J. M. Jorgensen Mr. K. G. Smith Sponsor: AFCEC
LSSR/11-79B	Productivity: A Function of Skill	Capt B. D. French Capt R. P. Steele Sponsor: HQ USAF/MPMZ
LSSR/12-79B	A Policy Model of USAF Aircraft Operational Reliability	Capt L. A. Johnson Mr. E. R. Laase Sponsor: HQ AFSC
LSSR/13-79B	An Evaluation of Seasonality in the United States Air Force Medical Materiel Management Systems	Capt V. R. Gilloth Capt J. F. Ohl, Jr. Lt W. A. Wells Sponsor: AFLC
LSSR/14-79B	Behavioral Factors Affecting the Integration of Women Into Air Force Craft Skills	Capt G. S. Caron Capt L. W. Emmelhainz Sponsor: HQ USAF

LSSR/15-79B	Improving the Preventative Maintenance Checks and Services Program for the M60A1 Main Battle Tank	Capt L. A. Frick Capt R. E. Sasser Sponsor: M-60 SPO, USA
LSSR/16-79B	An Acquisition Alternative: System Modification to Satisfy Mission Needs	Ms B. J. Klein Mr. M. A. Smigel Sponsor: AFBRMC
LSSR/17-79B	The Identification of Performance Indicators for the Engineering and Installation of Ground CEM Systems	Maj J. M. Nauseef Sq Ldr A. G. Tahir Sponsor: AFCS
LSSR/18-79B	A Cost Model for Air Force Institute of Technology Programs	Maj K. J. Hotcaveg Mr. J. R. Cox, Jr. Sponsor: AFIT
LSSR/19-79B	A Model of the Base Civil Engineering Work Request/Work Order Processing System	Capt W. A. Arnold Capt D. G. Fogleman Sponsor: AFCEC
LSSR/20-79B	The Determination of the Accessibility of Post-Attack Launch Windows	Capt D. F. Ballog Capt D. B. Hutchinson Sponsor: HQ SAC
LSSR/21-79B	An Operating and Support Cost Model for Avionics Automatic Test Equipment	Capt A. J. Lesko Col J. G. Pereira, FAV Mr. J. A. Guerra Sponsor: ASD
LSSR/22-79B	An Investigation of Changes in Direct Labor Requirements Resulting From Changes in Aircraft Engine Production Rate	Capt M. W. Crozier Capt E. J. J. McGann, Jr. Sponsor: AFBRMC
LSSR/23-79B	Evaluation of and Recommended Change to the Reliability Improvement Warranty (RIW) Guidelines	Capt M. C. Jacobson Capt R. L. Skaggs Sponsor: AFALD
LSSR/24-79B	The Organizational Impact of the Implementation of a New Quality Assurance Method in the Base Contracting Environment	Mr. J. W. Hargrave Sponsor: 2750 ABW

LSSR/25-79B	Comparison of a Follow-on Analysis and Initial Findings of a Survey of the Perceived Quality of Life of Air Force People	Capt W. L. George Capt D. D. Lewis Sponsor: HQ USAF/LEX
LSSR/26-79B	The Effect of Air Traffic Control Experience Levels on Quality of Service	Capt J. R. Rhoades Capt C. E. Samuel Sponsor: AFCS
LSSR/27-79B	An Analysis and Synthesis of Engine Condition Monitoring Systems	Capt J. W. Chapman, Jr. Capt C. L. Page, Jr. Sponsor: AFLC/LO
LSSR/28-79B	Security Assistance to South Korea: Assessment of Political, Economic, and Military Issues From 1975 to 1979	Capt M. H. Perkins Capt W. Bolles Sponsor: AFLC/ILC
LSSR/29-79B	An Analysis of the Minuteman Intercontinental Ballistic Missile Maintenance Standardization and Evaluation Program	Capt J. M. Bierie Capt R. W. Cook Mr. A. H. Lane, Jr. Sponsor: HQ SAC
LSSR/30-79B	A Guide for the AFLC Program Manager of Major Production Class IV & V Modifications	Capt R. S. MacIsaac Sponsor: HQ AFLC/LOA
LSSR/32-79B	The Effectiveness of a Joint Labor-Management Council on Enhancing the Quality of Worklife and Increasing Perceived Productivity	Maj J. W. Fulton, Jr. Sponsor: AFLC/XR

GAE/AA/79J-1	An Experimental Evaluation of a Laser Velocimeter by the Study of Turbulence in a Plane Free Jet at High Subsonic Velocities	Capt H. G. Cerullo Sponsor: AFAPL
GAE/AA/79S-1	Estimation of Velocity Distribution of Fragmenting Warheads Using a Modified Gurney Method	Capt Y. J. Charron Sponsor: AFATC
GAE/AA/79M-1	Parametric Study of C-130 Response to an Attacking Enemy Fighter	Capt M. F. Fukey Sponsor: AFAC, Pope AFB NC
GAE/AA/79M-2	Approximate Analysis of Failure Within Composite Laminated Plates Considering Edge Effect, Variable Loading and Temperature	Lt R. L. Gallo Sponsor: AFML
GAE/AA/79M-3	Addition of an Aerosol Transmission Model to the Aeronautical Systems Division Infrared-Red Emission Prediction Program (ASDIR)	Capt A. C. McLellan Sponsor: ASD/XRE
GAE/AA/79M-5	A Study of Modal Control Applied to a Cantilever Beam	Capt C. J. Watters Sponsor: AFFDL
GCS/EE/79-1	Implementation and Testing of Numerical Analysis Techniques in Avionics Application	Capt R. A. Adams Sponsor: AFAL/AAT-2
GCS/EE/79-2	Design for an Automated Status Accounting System for Software Configuration Management	Capt A. Schuster Sponsor: ASD/Simulator SPO
GCS/EE/79-3	Evaluation of an Existing Computer System Using Structured Analysis Techniques	Capt D. L. Schweitzer Sponsor: AFFDL/FBRC

GA/EE/79-1	An Adaptive Distributed-Measurement Extended Kalman Filter For A Short Range Tracker (I & II)	Capt D. A. Harnly Capt R. L. Jensen Sponsor: AFWL/ALO
GAE/AA/79D-1	Separation Control In The All APT Light Pipe	Capt W. H. Bailey, Jr. Sponsor: AFWL/LRO
GAE/AA/79D-2	An Experimental Weight Function Method For Stress Intensity Factor Calibration	Maj D. Bar-Tikva Sponsor: AFFDL
GAE/AA/79D-3	Analytical/Experimental Investigation Of The Instability Of Composite Cylindrical Panels	Capt M. L. Becker Sponsor: AFFDL
GAE/AA/79D-5	The Prediction Of Mass Loaded Natural Frequencies And Force Response Of Rib Stiffened Complex	Capt L. B. Glenesk Sponsor: AFFDL
GAE/AA/79D-6	Minimum Time Turns With Thrust Reversal	Capt T. L. Johnson Sponsor: AFFDL
GAE/AA/79D-8	A Numerical Study Of Normal-Shock/ Turbulent Boundary Layer Interactions	Maj L. C. Keel Sponsor: AFFDL
GAE/AA/79D-9	Thrust Vectoring To Eliminate The Vertical Stabilizer	Capt R. E. LaFroth Sponsor: AFFDL
GAE/AA/79D-10	A Calibration Of The Preston Tube In Liquid Flow Systems	Capt B. A. Maher Sponsor: AFAPL
GAE/AA/79D-11	Holographic Interferometric Survey Of Boundary Layer Transition In An Axisymmetric Free Convection Thermal Boundary Layer	Lt G. S. Meserve Sponsor: AFFDL
GAE/AA/79D-14	Effect Of Imperfections On The Collapse Of Rectangular Plates Using Variational Calculus	Capt L. G. Peck Sponsor: AFFDL
GAE/AA/79D-15	Computer Simulation Of A Solar Energy System Which Utilizes Flat-Plate Solar Collectors	Capt B. E. Prins Sponsor: AFIT

GAE/AA/79D-16	Velocity Profiles In A Long Inlet Duct Employing A Photon Correlating Laser Velocimeter Without Seeding	Capt H. J. V. Rogers Sponsor: AFAPL
GAE/AA/79D-17	Comparison Of Numerical Analysis Methods For Solving One-Dimensional Elliptic Differential Equations	Lt R. A. Smith Sponsor: AFFDL
GAE/AA/79D-18	Shock Induced Starting Of Gasdynamic Laser Nozzles	Capt P. A. Weber Sponsor: AFAPL
GAE/AA/79-7	An Experimental Study Of Static Thrust Augmentation Using A 2-D Variable Ejector	Maj E. Kedem Sponsor: AFFDL
GA/AA/79D-1	A Study Of Short Cylindrical Shells With And Without Cutouts Under Pure Bending	Capt C. J. Bang, Jr. Sponsor: AFFDL
GA/AA/79D-2	Application And Comparison Of Stable Periodic Orbits In The Vicinity Of Lagrangian Points L4 And L5 To A Four-Body Truth Model	Capt W. D. Beekman Sponsor: SAMSO
GA/AA/79D-3	Orbital Estimation Using Two-Body Classical Orbital Elements As Measurement Updates	Capt D. G. Boden Sponsor: AEDC
GA/AA/79D-4	Use Of An Aerodynamic Turn To Maximize The Orbit Inclination Change For The Space Shuttle Orbiter	Capt G. S. Geary Sponsor: SAMSO
GA/AA/79D-9	Modern Optimal Control Methods Applied In Active Control Of A Cantilever Beam In Bending Vibration	Capt K. D. Sanborn Sponsor: AFFDL
GA/AA/79D-10	Stabilizing An Unstable Orbit About L_3 In The Sun, Earth, Moon System Using Linear Constant Gain Feedback	Capt D. E. Smith Sponsor: SAMSO
GA/AA/79D-11	Determination Of The Minimum Delta V Transfer Trajectory From A Low Earth Orbit To A Stable Orbit Around The Lagrangian Point L4 In A Restricted Four-Body System	Capt T. E. Weimer Sponsor: SAMSO

GCS/MA/79D-1	The Graphical Display Of Multi-Dimensional Aerodynamic Flow Field Data	Capt E. P. Amburn Sponsor: AFFDL
GCS/MA/79D-2	The Generation Of Input Data Using Interactive Computer Graphics	Capt A. R. Miller Sponsor: AFAL
GCS/EE/79-5	An Emitter Data Maintenance And Retrieval System	Lt C. C. Gardner Sponsor: AFAL
GCS/EE/79-6	Design and Implementation Of A Micro-Processor Flight Damage Monitor	Capt B. C. Johnson Sponsor: AFFDL
GCS/EE/79-7	A System Design Tool For Automatically Generating Flowcharts And Preprocessing Pascal	Capt J. H. Keller Sponsor: AFAL
GCS/EE/79-8	A Computer Performance Evaluation Educational Tool	Capt P. C. Lewis Sponsor: AFSDC
GCS/EE/79-9	School Of Aerospace Medicine Scheduling System (SAMSS)	Lt A. D. Melendez Sponsor: USAFSAM
GCS/EE/79-11	(MIME), Microprogrammable Minicomputer Emulator, Phase II	Capt D. A. Myers Capt T. R. Hoyt Sponsor: ASD
GCS/EE/79-12	A Graph Model Representation Of A Distributed Processing Computer System	Lt L. A. Palmer Sponsor: AFAL
GCS/EE/79-13	Evaluation Of An Improved Parachute Test Data Acquisition System	Capt G. A. Richardson Sponsor: ASD
GCS/EE/79-14	The Design And Implementation Of A Pedagogical Relational Data Base System	Lt M. A. Roth Sponsor: AFIT

GE/EE/79-6	The Effectiveness Of Self-Protective Chaff Against Radar MIT, Resolution, And Control Servos	Capt S. B. Bang Sponsor: ASD
GE/EE/79-7	Data Flow Techniques In Single-User Multiprocessor System	Lt B. P. Boesch Sponsor: AFFDL
GE/EE/79-8	Prototype Universal Network Interface Device	Capt E. F. Brown Sponsor: RADC
GE/EE/79-9	The Application Of Output Predictive Digital Control To Wing Flutter Suppression And Terrain Following Problems	Capt D. E. Chaffin Sponsor: AFFDL
GE/EE/79-10	An Experimental Study Of Spatial Frequency Specification Adaptation Effects In The Human Visual System	Capt W. A. Clemens Sponsor: AMRL
GE/EE/79-11	Predicted Microwave Electro-Magnetic Backscattering Returns For Simple Reflective Targets	Lt F. DiBartolomeo, Jr. Sponsor: RADC
GE/EE/79-12	Performance Of A Source/Channel Encoded Imagery Transmission System	Capt R. A. Duryea Sponsor: AFAL
GE/EE/79-13	Analysis Of A Linear N Element Steerable Antenna Array	Capt R. E. Everett Sponsor: AFAL
GE/EE/79-14	A Statistical Model For Multipath Reflection Effects Of Antennas Mounted On Aircraft	Lt J. L. Frack Sponsor: RADC
GE/EE/79-15	Intercept Vulnerability Of Direct Sequence Pseudo-Noise Encoded Spread Spectrum Waveforms	Capt T. J. Hall Sponsor: RADC
GE/EE/79-18	A Test For The Validity Of The Generalized Gilbert Model Using Real Communications Channels	Capt J. F. Johnson, Jr. Sponsor: HQ AFCS

GE/EE/79-21	RF Scanning Algorithm For A Radar Warning Receiver Using Optical Processing	Capt D. R. Mancuso Sponsor: AFFDL
GE/EE/79-24	Phase Sequence Estimation For Laser Line-Scan Imagery In The Presence Of Rayleigh Fading	Capt D. E. Meer Sponsor: AFAL
GE/EE/79-19	Model Order Reduction Using The Balanced State Representation Theory, Application, and Interactive Software Implementation	Lt J. R. McClendon Sponsor: AFFDL
GE/EE/79-25	Properties Of Ion-Implanted And Diffused Photodetectors Of Germanium And Germanium And Germanium-Silicon Alloys	Lt I. M. Mills Sponsor: RADC
GE/EE/79-26	Compact Passive Laser Gyroscope Feasibility Investigation	Lt R. A. Motes Sponsor: AFAL
GE/EE/79-27	Analysis Of The Effects Of Higher Order Control Systems On Aircraft Approach And Landing Longitudinal Handling Qualities	Sq Ldr, M. A. Pasha Sponsor: AFFDL
GE/EE/79-28	Rotation Rate Sensin Via Magnetostatis Surface Wave Propagation	Capt R. J. Poturalski Sponsor: RADC
GE/EE/79-29	Glow Discharge Optical Spectroscopy Of Ion Implanted Gallium Arsenide	Lt S. Puangthum Sponsor: AFAL
GE/EE/79-30	Deterministic Analysis Of The Effects Of Sensor Errors On Strapped Down Ins Performance	Lt R. H. Reynolds Sponsor: AFAL
GE/EE/79-33	PRDAGOG II Realization	Capt J. S. Sheehan Sponsor: AFIT
GE/EE/79-34	Validation And Receiver Design For A Random Point Process Model Of Atmospheric Radio Noise	Lt J. F. Stach Sponsor: RADC

GE/EE/79-36	Threshold Of The Velocity Gate In A Continuous Wave Radar With Conical Scan Tracking	Lt J. P. Sunray Sponsor: RADC
GE/EE/79-44	An Adaptative Array With Automatic Gain Control	Lt J. R. Sutton Sponsor: RADC
GE/EE/79-37	A Two-Dimensional Multielectrode Micro-Probe For The Visual Cortex	Lt J. A. Tatman Sponsor: AMRL
GE/EE/79-38	Spectral Analysis Of Short Record Time Series Data	Lt P. B. Terry Sponsor: RADC
GE/EE/79-39	Pulse Width Modulation Of Spread Spectrum Carriers	Capt F. D. Tiller Sponsor: RADC
GE/EE/79-41	Digital Controller For Electron Beam Lithography System	Capt M. L. Weidner Sponsor: RADC
GE/EE/79-43	Design Of A Real-Time Automated Switching System Utilizing Computer Control	Capt T. A. Bowlds Sponsor: AFAL
GE/MA/79D-1	Graphical Input Methodology For Computer Aided Analysis Of Control Systems	Capt D. E. Troxel Sponsor: AFIT
GEO/EE/79-1	Performance Of Optical Receivers In Detection Of Variable Duty Cycle Manchester Coded Data	Lt R. A. Cilley Sponsor: AFAL
GEO/EE/79-2	Optical Receiver Design Using Pyroelectric Detectors	Lt M. J. Goodman Sponsor: ASD
GEO/EE/79-3	Spatial Domain And Spatial Frequency Domain Imaging	Capt K. W. Kirlin Sponsor: RADC
GEO/EE/79-4	Phase Estimation Using An Imaging Sensor	Capt C. V. Scull Sponsor: AFWL

GEO/EE/79-5	Automated Hall Effect Experiment Data Acquisition System	Capt E. A. Verchot, Jr. Sponsor: AFML
GEO/PH/79D-1	Phase Contrast Method Of Phase Measurements	Capt D. E. Eklund Sponsor: AFAL
GEO/PH/79D-2	Study Of Applicability Of Iterative Saturated Gain Model In Confocal Unstable Resonator Analysis	Capt R. G. Sorenson Sponsor: AFWL
GEP/PH/79D-1	Laser Annealing Of And Laser Interactions With Ion Implanted Semiconducting Material	Lt K. R. Bradley Sponsor: AFAL
GEP/PH/79D-2	Ultraviolet Absorption Cross Section Of Mercuric Bromide	Lt G. L. Franton Sponsor: AFAPL
GEP/PH/79D-3	Differential Cross Section For Electron Detachment From Negative Hydrogen Ions Colliding With Neutral Hydrogen Atoms	Lt M. R. Franz Sponsor: AFWL
GEP/PH/79D-4	Asymptotic Analysis Of Off-Center Unstable Confocal Resonators	Capt M. P. Grone Sponsor: AFWL
GEP/PH/79D-5	Comparison Of Germanium-Stainless Steel Electrode Configuration For Possible Utilization In Electric Discharge HF Lasers	Lt R. J. Hoffman Sponsor: AFAL
GEP/PH/79D-6	Characterization Of Laser Annealing Of Ion Implanted GaAs And Si Using Optical Reflectivity	Lt B. W. Mullins Sponsor: AFAPL
GEP/PH/79D-8	Photoluminescence Of Undoped, Semi- Insulating, And Mg-Implanted Indium Phosphide	Capt G. S. Pomrenke Sponsor: AFAL
GEP/PH/79D-9	High Temperature Hall Effect In Indium- Doped Silicon	Capt G. E. Rattray Sponsor: AFML
GEP/PH/79D-10	The Use Of Complex Field Vectors In Diffraction Theory	Lt M. E. Rogers Sponsor/AFWL
GEP/PH/79D-7	Numerical Methods and the Solution of Boundary Value Problems	Capt G. N. Nelson Sponsor: AFML

GEP/PH/79D-11	Measurements On Electron Impact Excitation Functions Of Xenon Transitions	Lt M. D. Stephen Sponsor: AFAPL
GEP/PH/79D-12	Effects Of Sulfurhexafluoride On Ionization Waves In An Argon Glow Discharge	Lt D. S. Vunck Sponsor: AFAPL
GEP/PH/79D-13	Analysis Of Electron Drift Velocities In Molecular Gas-Rare Gas Mixtures Using A Flowing Afterglow Plasma	Capt R. F. Wittler Sponsor: AFAPL
GEP/PH/79D-14	The Validity Of Velocity Calculations Based On The Plug Flow Assumption	Lt P. J. Wolf Sponsor: AFWL
GOR/MA/79D-1	Reliability Testing And Fixed Sample Size Tests Of Hypothesis Of A System Whose Underlying Distribution Is A Two-Parameter Weibull	Capt D. F. Antoon Sponsor: AFFDL
GOR/SM-79D-1	Toward Validation Of Computer Simulation Models In Operational Test And Evaluation	Capt J. M. Arnett Sponsor: AFTEC
GOR/MA/79D-2	Selection Of Variables In A Regression Analysis	Lt J. R. Cafarella, Jr. Sponsor: AFAL
GOR/MA/79D-3	Computer Analysis Aids For Military Managers	Capt R. D. Conte Sponsor: AFLC
GOR/MA/79D-4	Fully Adaptive Estimation Of The Parameters Of t And Half- t Distribution	Capt T. W. Harp Sponsor: AMRL
GOR/SM-79D-4	Aircraft Airframe Cost Estimation Using A Random Coefficients Model	Capt J. H. Hinch Sponsor: ASD
GOR/SM-79D-6	A Computer-Based Decision Analysis Support System (DASS)	Capt B. W. Morlan Sponsor: DARPA
GOR/MA/79D-5	Adaptive Estimation Of Life Distributions Based On A Family Of Half-Generalized Exponential Power Distributions	Capt W. J. Mulzer Sponsor: AMRL

GOR/MA/79D-6	Solutions Of The Matrix Equation AX + CXD	Capt T. S. Pomykalski Sponsor: AFML
GOR/MA/79D-7	A Univariate Monte Carlo Technique Using Component Failure Test Data To Approximate Reliability Confidence Limites Of Systems With Components Characterized By The Weibull Distribution	Capt R. Putz Sponsor: AFFDL
GOR/MA/79D-8	Incorporating The Asymptotic Normality Properties Of Binomial Distribution Into A Monte Carlo Technique For Estimating Confidence Limits For System Reliability	Capt R. E. Rice Sponsor: ASD/ENADD
GOR/SM/79D-7	LPAFIT: An Interactive Linear Programming Package Developed At The Air Force Institute of Technology	Capt M. A. Schiefer Sponsor: AFIT
GOR/MA/79D-9	Markov Simulations Of One- And Two- Dimensional Weather Data Bases	Capt S. R. Schroeder Sponsor: AFFDL
GOR/SM/79D-10	The Military Survivor Benefit Plan: How Much Does It Benefit The Military Member?	Capt T. L. Wade Sponsor: HQ USAF
GSM/SM/79D-15	Optimization Of Munitions Storage	Capt B. A. Boggs Capt L. M. Gusmus (GOR-79D) Sponsor: USA
GSM/SM/79D-16	An Analysis Of Discounting Procedures And Risk Analysis Techniques For Use In The Department Of Defense	Dapt D. D. Daily Sponsor: OSD
GSM/SM/79D-17	The Moderating Effects Of Group Member- Ship And Growth Need Strength On The Relationships Between Job Characteristics And Intrinsic Motivation	Capt D. L. Henson Sponsor: HQ AFLC
GSM/SM/79D-18	Use Of Electromyogram Information To Improve Human Operator Performance	Capt M. C. Kipperman Sponsor: AMRL

GSM/79D-19	An Investigation Of The Factors Affecting The Career Selection Process Of AFSC Company Grade Officers	Maj R. J. Mosbach Sponsor: HQ AFSC
GSM/79D-20	An Investigation Of The RCA Price-s Cost Estimation Model As It Relates To Air Force Computer Software Acquisition And Management	Capt R. E. Steffey, Jr. Sponsor: ASD
GSM/79D-21	A Policy-Capturing Investigation Of Expectancy Theory Models Of Valence And Force	Capt N. C. Wagner, Jr. Sponsor: AFHRL
GA/AA/80M-2	Column Buckling Of Isotropic And Composite Beams Using A Truncated Fourier Series	Lt J. L. Insprucker, III Sponsor: AFFDL
GA/AA/80M-3	Ground Plane Effects On A Countoured Surface At Low Subsonic Velocities	Lt J. A. Krawtz Sponsor: AFAPL
GA/AA/80M-4	A Single Pulse Shock Tube Study Of Pyrolysis Of Monomethylamine	Mr. W. R. Nusz, Jr. Sponsor: AFAPL
GE/EE/79-1	Segmentation Of Touching English Letters	Lt R. E. Bentskowski Sponsor: FTD
GE/EE/79-2	Digital Simulation And Parameter Estimation Techniques For The E-Line Pulse-Forming Network	Lt L. W. Vannoy Sponsor: AFAPL
GE/EE/79-3	The Design And Development Of A Hybrid Monitor/Debugger System For The Micro-Programmable Minicomputer Emulator (MIME)	Capt J. J. Zelasco, Jr. Sponsor: AFIT
GE/EE/79-4	(S)Vulnerability Of A Typical Identification Friend Or Foe (IFF) Transponder Receiver(U)	Capt W. M. Cook Sponsor: ASD
GGC/EE/79-1	The Design Of Digital Controllers For The C-141 Aircraft Using Entire Eigen-structure Assignment And The Development Of An Inter-Active Computer Design Program	Lt T. A. Kennedy Sponsor: AFFDL

GGC/EE/79-2	Investigation Of Inverse Vandermonde Matrix Calculation For Linear System Applications	Lt D. P. Seyler Sponsor: AFFDL
GGC/EE/79-3	Estimation Of The Anomalous Gravity Gradient Via Precision Angle Tracking	Capt R. W. Smart Sponsor: AFAL
GGC/EE/79-4	Investigation Of Roll Performance For A Highly Nonlinear Statically Unstable Fighter - Type Aircraft	Lt P. L. Vergez Sponsor: AFFDL
GGC/EE/79-5	Using Vertical Gust Alleviation To Improve The Target Tracking Capability Of The Control Configured YF-16	Lt E. R. Molner Sponsor: AFFDL
GSM/SM/79S-1	Policy Capturing Of Management Personnel Through Project-Selection Decision Making In An Air Force Research And Development Laboratory	Capt T. L. Brooks Sponsor: AFFDL
GSM/SM/79S-2	An Investigation Of The Software Requirements Allocation Process In The Acquisition And Management Of A Major Defense System	Capt V. L. Cooper Sponsor: ASD
GSM/SM/79S-3	An Assessment Of Team Development At The Air Force Flight Dynamics Laboratory	Capt R. G. Dekok Sponsor: AFFDL
GSM/SM/79S-4	Organization Membership Satisfaction And Job Performance Satisfaction: An Examination Of Two Constraints	Maj W. B. Dixon Sponsor: AFIT
GSM/SM/79S-5	A Study Of Two Avionics Life Cycle Cost Models And Their Applicability In The Communications-Electronics Meteorological Environment	Capt N. J. Drobot Capt M. H. Johnson Sponsor: HQ AFCS/AFAL
GSM/SM/79S-6	Interactive Programming For Management Aids To Decision-Making: Queueing Theory Applied	Capt P. Hamilton Sponsor: ASD

GSM/SM/79S/7	An Investigation Into The Market Structure Of The Foreign Technology Division	Capt J. F. Jenkins, Jr. Sponsor: HQ SAC
GSM/SM/79S-8	Policy Capturing Exercise On Labor Arbitrators	Capt D. W. Lambert Sponsor: ASD
GSM/SM/79S-9	Alcohol Misuse Among USAF Civilian Employees	Capt R. D. Larkins Sponsor: AF/DPC
GSM/SM/79S-10	A Critical Appraisal Of Source Selection Procedures	Capt J. N. Milligan Sponsor: ASD
GSM/SM/79S-11	Expectancy Theory And Policy Capturing: A Predictive Model Of Student Effort In An Academic Environment	Capt M. A. Morehouse Sponsor: AFIT
GSM/SM/79S-12	Optimum Utilization Of The KC-10 For Fighter Aircraft Deployments	Capt R. D. Reynolds Sponsor: HQ TAC
GSM/SM/79S-13	Leader/Follower: An Analysis Of A Proposed Technique For Increasing Competition In Air Force Weapon System Procurements	Capt L. L. Soderquist Sponsor: AFBMRC
GSM/SM/79S-14	Job Satisfaction: Literature Review And Empirical Test Of A Job Facet Satisfaction Model	Capt T. R. Talbot Sponsor: AFBMRC
GSM/SM/76D-30	Application Of A Bayesian Approach To Updating Airframe CER's	Capt W. D. Dietrich Sponsor: ASD
GST/MA/79M-1	Spectral Analysis Of Time Series	Capt A. L. Bertapelle Sponsor: AFTEC
GST/MA/79M-2	Traffic Analysis Of Proposed Communication Techniques For The Strategic Satellite System	Capt J. E. Christopherson Capt J. J. Hinkle Sponsor: AFSC/SAMSO
GST/MA/79M-3	A Comparison Of Tagsem And Red Flag	Capt D. A. Himes, Jr. Sponsor: ASD

GST/MA/79M-5	A Method For Evaluating KC-135 Avionics Configurations	Capt J. R. Jerabek Sponsor: AFAL
GST/MA/79M-6	Sensitivity Of Aircraft Attrition Estimates To Aiming Distribution Parameters Of Antiaircraft Artillery	Maj E. C. Wilkins Sponsor: AMRL
GST/79M-1	A Guide For The Application Of Trend Analysis And Other Statistical Methods	Maj D. A. Brunstetter Sponsor: AFIT
GST/79M-3	A Computerized Technique For Scheduling Military Airlift Command CT-39 Operational Support Airlift Missions	Maj R. K. Coffey Maj G. P. Milne Sponsor: HQ MAC
GST/79M-4	A Simulation Model Of Attack Helicopter Vulnerability To Hostile Artillery Fire	Capt E. H. Koenig, III Sponsor: AF/SAGF
GST/79M-6	An Evaluation Of Main Operating Base Scheduling Procedures Of The 552 AWACW	Maj L. W. Saunders Capt J. D. Yount Sponsor: 552 AWACW
GST/79M-7	Inference Of Probability Of Kill Of Air-To-Air Missiles In Various Attack	Maj C. J. Vogel Sponsor: AFTEC
GST/79M-8	A Heuristic Model For Estimating Soviet Industrial Recovery Based On Skilled Labor Losses	Maj R. J. Wasilewski Sponsor: HQ SAC
GSM/78S-21	An Analysis Of The Republic Of Korea Air Force's Aircraft Accidents	Lt Col H. S. Suh Sponsor: AFIT
GCS/EE/79-15	An Analysis Of A Routing Algorithm For Autodin II	Maj A. A. Ross Sponsor: DCEC
GOR/SM/79D-5	An Investigation Of The Relationship Between Personal Incentive Goals And Goals Of A Non-Profit Organization As Measured Within An Air Force Organization	Lt L. J. Logan Sponsor: AFMPC

GSE/AA/79D-1

Conceptual Design And Analysis Of A
Rocket-Propelled Boost-Lift Stand-Off
Missile Volume I - Executive Summary
Design Study Volume II - Design And
Analysis

Lt E. T. Alexander, Jr.
Capt L. R. Clarke
Capt T. L. Gonzales
Capt J. L. Harvey
Capt W. H. Miller
Capt R. L. Russell
Capt H. R. Shelgren, Jr.
Lt B. B. Streett
Ms P. M. Wagner
Sponsor: AFRPL

DOCTORAL DISSERTATION TITLES

CALENDAR YEAR 1979--SUMMARY

SPONSORS

AFAL	4
AFFDL	2
AFAPL	2
ARWL	1
AFTAC	1
<u>Total</u>	<u>10</u>

DEPARTMENTS*

ENG	4
ENY	4
ENP	2
<u>Total</u>	<u>10</u>

*Department symbols and locations shown on pages 5 and 6

DOCTORAL DISSERTATION TITLES

Calendar Year 1979

DS/EE/78-5	Optimal Feedback Controls For Parameter Identification	Maj D. N. Olmstead Sponsor: AFAL
DS/EE/78-6	Estimation Of Aircraft Target Motion Using Pattern Recognition Orientation Measurements	Capt J. D. Kendrick Sponsor: AFAL
DS/AA/79S-1	Application Of Generalized Derivatives To Viscoelasticity	Capt R. L. Bagley Sponsor: AFFDL
DS/PH/79-1	Electric and Magnetic Fields Of An Intense Pulse Of Relativistic Electrons Propagating Through Air	Capt K. A. Dreyer Sponsor: AFWL
DS/AE/79-1	An Investigation Of Flame Stability In A Coaxial Dump Combustor	Mr. E. T. Curran Sponsor: AFAPL
DS/AA/79M-1	Prediction Of Aerodynamic Forces On A Circular Cylinder And A Thin Airfoil In A Transonic Airstream By The Finite Element Method	Capt J. E. Marsh Sponsor: AFFDL
DS/EE/79-1	Gravity Model Evaluation For Precise Terrestrial Inertial Navigation: A System Accuracy Approach	Maj R. M. Edwards Sponsor: AFAL
DS/EE/79-2	Optimal Multiprocessor Scheduling Of Periodic Tasks In A Real-Time Environment	Mr. W. D. Seward Sponsor: AFAL
DS/PH/79-2	Integral Equation Space-Energy Flux Synthesis For Spherical Systems	Maj E. W. Skluzacek Sponsor: AFTAC
DS/AA/79S-1	An Analytical And Experimental Study Of Aircraft Hydraulic Lines Including The Effect Of Mean Flow	Maj J. H. Pletcher, Jr Sponsor: AFAPL

VIII. RESEARCH ASSESSMENT QUESTIONNAIRE SUMMARY

CALENDAR YEAR 1979

1. Introduction

The AFIT research assessment form shown on page 120 was sent to the sponsors of master thesis projects in the School of Systems and Logistics and the School of Engineering. Fifteen percent of the survey forms were returned by the School of Engineering sponsors and twenty percent were returned by the sponsors of the School of Systems and Logistics students. In addition, thesis work performed by students at civilian institutions were sent to units of the Air Force who might have an interest in the thesis topics, and they were asked to evaluate the thesis work. Over sixty-eight such survey forms were returned.

2. Summary of Results

A. School of Systems and Logistics

(a) 91% of those survey forms returned said this thesis research contributed to a current Air Force project.

(b) 91% said they would have done this research either in-house or on contract if AFIT had not researched it.

(c) 18% said the thesis work was highly significant.

55% said work was significant.

18% said it was slightly significant.

5% said it was not significant.

(d) The average thesis was estimated to be worth 0.74 manyears of effort or \$39,600 per thesis.

(e) The sponsors returning the survey were ranked as follows:

9%	Col or GS-15
36.5%	Lt Col or GS-14
9%	Maj or GS-13
36.5%	Capt or GS-12
9%	Lt or GS-11

B. School of Engineering

(a) 100% of those survey forms returned said this thesis research contributed to a current Air Force project.

(b) 92% said they would have done this research either in-house or on contract if AFIT had not researched it.

(c) 33% said the thesis work was highly significant.

63% said the work was significant.

4% said it was slightly significant.

(d) The average thesis was estimated to be worth 0.9 manyears of effort or \$51,180 per thesis. In addition one GSE design study was judged highly significant and estimated to represent 5 manyears of effort and saved \$200,000.

(e) The sponsors returning the survey were ranked as follows:

8% Colonel or GS-15

8% Lt Col or GS-14

34% Maj or GS-13

46% Capt or GS-12

4% Lt or GS-11

C. Civilian Institutions

The reviewers of thesis research done by students at civilian institutions were not the original sponsors. Nonetheless 47% of the reviewers said they would have done the research if the student had not. The total net worth estimated by the 68 returns was \$1,188,600. Those that made an estimate of the thesis net worth set the average thesis as being equivalent to 0.9 manyears of effort or \$37,144 per thesis. Seven percent said the thesis efforts were highly significant, 50% said they were significant and 43% were slightly significant.

3. Estimation of Total Net Worth

In order to estimate the total net worth of the thesis effort from the samples we can proceed as follows:

A. School of Engineering

The sponsors estimated the average thesis was worth \$51,180 and with 161 completed thesis, this represents a total net worth of \$8,239,980 and adding the design study gives a total estimated net worth of \$8,439,980. Recall 92% of this work would have been done if AFIT students had not carried out this research. Thus this represent a cost avoidance contribution of \$7,765,000 to Air Force Research and Development activities.

B. School of Systems and Logistics

The average value of the sponsors estimate for thesis net worth was \$39,600 per thesis and with 55 completed thesis, this represents a total net worth of \$2,178,000. Recall 91% of this work would have been done if AFIT students had not carried out this research. Thus this represents a cost avoidance contribution of \$1,982,000 to Air Force Research and Development activities.

C. Institute Totals

School of Engineering	\$ 7,765,000
School of Systems and Logistics	1,982,000
Civilian Institutions	1,189,000
Total	\$ 10,936,000

The thesis research done by students of the Institute during calendar year 1979 is estimated to represent a cost avoidance contribution of \$10,936,000 to Air Force Research and Development activities.

AFIT RESEARCH ASSESSMENT

The purpose of this questionnaire is to ascertain the value and/or contribution of research accomplished by students or faculty of the Air Force Institute of Technology (AFIT). It would be greatly appreciated if you would complete the following questionnaire and return it to:

AFIT/NR
Wright-Patterson AFB OH 45433

Research Title: _____

Author: _____

Research Assessment Questions:

1. Did this research contribute to a current Air Force project?
 - a. Yes
 - b. No
2. Do you believe this research topic is significant enough that it would have been researched (or contracted) by your organization or another agency if AFIT had not?
 - a. Yes
 - b. No
3. The benefits of AFIT research can often be expressed by the equivalent value that your agency achieved/received by virtue of AFIT performing the research. Can you estimate what this research would have cost if it had been accomplished under contract or if it had been done in-house in terms of manpower and/or dollars?
 - a. Man-years _____
 - b. \$ _____
4. Often it is not possible to attach equivalent dollar values to research, although the results of the research may, in fact, be important. Whether or not you were able to establish an equivalent value for this research (3 above), what is your estimate of its significance?
 2. Highly Significant
 - b. Significant
 - c. Slightly Significant
 - d. Of No Significance
5. AFIT welcomes any further comments you may have on the above questions, or any additional details concerning the current application, future potential, or other value of this research. Please use the back of this questionnaire for your statement(s).

NAME	GRADE	POSITION
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ORGANIZATION	LOCATION
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CALENDAR YEAR 1979

VII. LIST OF ACTIVE AFOSR/AFIT RESEARCH SUPPORT FUND PROJECTS (10 Projects)

1. Project 71-1, Nuclear Decay and Level Scheme Studies, Drs. G. R. Hagee and G. John, \$28,980. Related to work at the USAF Medical Center and AFTAC.
2. Project 74-1, Applications of Mossbauer Spectrometry to Problems in Materials Technology, Dr. G. John, \$5,500. Related to work at AFML.
3. Project 76-1, The Conversion of a Turbocharger to an Expendable Turbojet Engine, Drs., H. E. Wright and W. C. Elrod, \$6,992. Related to work at AFAPL and FTD.
4. Project 76-3, Instrumentation for AFIT/AFFDL Cooperative Digital Flight Control Laboratory and AFIT/AFAL Digital Signal Processing Research, Dr. G. B. Lamont, \$45,923. Related to work at AFFDL and AFAL.
5. Project 76-4, Computer Interface for an Experimental Video Synthesizer, Dr. M. Kabrisky, \$33,893. Related to work at AMRL, AFAL, and ASD.
6. Project 77-1, Shock Tube Investigation of the Rates and Mechanisms of No_x Formation from Organo-Nitrogen Compounds. Dr. E. A. Dorko, \$5,000. Related to work at AFAPL.
7. Project 78-1, Physiological Workload Metric and Stress Management Research, Dr. L. E. Wolaver, \$5,790. Related to work at AFFDL and School of Aerospace Medicine, Brooks AFB TX.
8. Project 79-1, Perfection of Laser Annealed Semiconductor Materials, Dr. T. E. Luke, \$31,227. Related to work at AFAL and AFML.
9. Project 79-2, Study of Ion Implantation in GaAs Using Cathodoluminescence, Dr. R. L. Hengehold, \$4,800. Related to work at AFAL.
10. Project 79-3, A Critical Evaluation of a Laser Photon Correlation Velocimeter System. Drs. H. E. Wright and W. C. Elrod, \$15,965. Related to work at AFFDL/FX and AFAPL.

AFOSR/AFIT RESEARCH SUPPORT FUNDING HISTORY

<u>Fiscal Year</u>	<u>Number of Projects</u>	<u>Total Funds</u>
67	6	\$ 32,860
68	7	49,611
69	6	44,978
70	8	44,372
71	7	49,848
72	5	49,515
73	4	26,500
74	3	37,290*
75	2	22,186**
76	5	49,586
77	4	42,300
78	3	46,290
79	3	51,992
TOTALS:	<u>63</u>	<u>\$ 547,328</u>

* Includes \$23,500 forward funding from FY-73

** Fund was closed out early because of disestablishment of ARL, the fund monitor.

The largest project was for \$39,935, the smallest was for \$600 and the average project size was \$8,686.

These 63 projects have resulted in the following publications:

75 Journal Articles
 25 Technical Reports
 160 Ph.D. or Masters Theses
 33 Other Publications (Proceedings, etc.)
293

This total includes 140 faculty publications. The total funds spent through FY-78 was \$495,336. This represents about \$3,500 per faculty publication.

X. SUMMARY BY DEPARTMENTS--CALENDAR YEAR 1979

DEPARTMENT*	NUMBER OF FACULTY	PUBLICATIONS	PRESENTATIONS	RESEARCH PROJECTS	CONSULTING PROJECTS	AFOSR/AFIT PROJECTS	MASTER THESIS	DOCTORAL DISSERTATIONS
ENC	14	17	20	30	35	-	17	-
ENG	20	41	45	49	76	2	57	4
ENP	15	12	28	42	64	5	18	2
ENS	10	13	13	21	27	-	38	-
ENY & ENF	18	31	25	56	49	2	32	4
Total EN	77	114	131	199**	251	10**	162	10
<hr/>								
LSCN	4	-	4	0	0	-	0	-
LSH	5	3	3	1	1	-	5	-
LSM	22	7	9	5	6	-	20	-
LSP	32	4	13	2	1	-	7	-
LSS	5	11	5	10	5	-	13	-
LSY	22	4	29	3	8	-	7	-
Total LS	90	29	63	21	21	-	55***	-
<hr/>								
DET	12	-	2	3	14	-	-	-
DEM	12	4	33	6	8	-	-	-
Total DE	24	4	35	9	22	-	-	-
<hr/>								
GRAND TOTAL	191	147	229	229	289	10	217	10

*Department symbols and locations shown on pages 5 and 6

**One in EN

***Three in RM

XI. PRINCIPAL SPONSOR SUMMARY--CALENDAR YEAR 1979

<u>Laboratory or Organization</u>	<u>Consulting Projects</u>	<u>Masters Thesis</u>	<u>Doctoral Dissertations</u>
AFFDL	30	32	2
AFAL	35	20	4
ASD	22	19	
AFLC	24	11	
AFAPL	14	14	2
AFWL	14	8	1
AFML	13	5	
RADC	8	13	
AMRL	11	6	
FTD	10	1	
HQ USAF	9	9	
AFLC/ILC	1	6	
SAMSO	1	6	
AFHRL	6	5	
AFTAC	1		1
DARPA	7	1	
HQ SAC		5	
AFBMRC	1	5	
HQ AFCS	3	4	
AFMPC	6		
MED CEN	5		
AFOSR	4		
AFALD	3		